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CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

ADDRESSES AND ORIGINAL ARTICLES.

Dysphagia. By WALTER HOWARTH, F.R.C.S. .. 1185

The Technique of Experimental Pneumoconiosis. By Prof. E. H. KETTLE, F.R.C.P., and R. HILTON, F.R.C.P.—*(With Illustrative Plate)* 1190

Lymphatic Leukæmia, with Infiltration of Periosteum Simulating Acute Rheumatism. By F. J. POYNTON, F.R.C.P., and REGINALD LIGHTWOOD, M.R.C.P.—*(With Illustrations on Plate)*..... 1192

Calcification of the Abdominal Aorta, with a Reference to Atheroma and the Radiological Investigation of Arteries. By G. E. VILVANDRÉ, M.R.C.S.—*(With Illustrations on Plate)*..... 1194

CLINICAL AND LABORATORY NOTES.

Lymphatic Leukæmia with Cutaneous Manifestations. By R. M. B. MACKENNA, M.R.C.P., and T. B. DAVIE, M.R.C.P.—*(Illustrated)*. 1196

The Ætiology and Treatment of Anæmia in Pregnancy. By MAURICE B. STRAUSS, M.D., and WILLIAM B. CASTLE, M.D. 1198

The Ætiology and Treatment of Sprue in Porto Rico. By WILLIAM B. CASTLE and CORNELIUS P. RHOADS, M.D..... 1198

MEDICAL SOCIETIES.

Medical Society for the Study of Venereal Diseases: Attitude of Life Insurance Societies to Venereal Disease.... 1199

Royal Society of Medicine: Section of Obstetrics and Gynæcology.—The Teaching of Obstetrics 1201

REVIEWS AND NOTICES OF BOOKS.

Vital Records in the Tropics. By P. Granville Edge 1203

Thrombose: Ihre Grundlagen und ihre Bedeutung. By Prof. Dr. A. Dietrich..... 1203

Nutritional Physiology. By P. G. Stiles 1203

The Foundations of Medical History. By Sir D'Arcy Power ... 1203

Italian Medicine. By Arturo Castiglioni, M.D. 1204

Acute Otitis Media. By W. Mayhew Mollison, F.R.C.S. 1204

Real Human Needs. By R. Macnair, M.B..... 1204

Sanitary Law in Question and Answer. By Charles Porter, M.R.C.P., and James Fenton, M.D., D.P.H. 1204

LEADING ARTICLES.

THE TEACHING OF OBSTETRICS 1205

SILICOSIS 1206

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ANNOTATIONS.

Chloroform and the Heart 1208

Treatment of Carcinoma of Tonsil 1208

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The Life-history of Treponema pallidum .. 1209

Diphtheria Immunisation in Infants 1210

The Collection of Statistics in the Tropics 1210

Respiratory Failure in Acute Anterior Poliomyelitis..... 1211

Precautions against Shock during Electrotherapy 1211

The British Legion Village 1212

Narrow Specialisation.... 1212

PANEL AND CONTRACT PRACTICE.

Health Insurance: An American View.—Benefits of Insured Women 1224

SPECIAL ARTICLES.

Some Thoughts on Medical Education. By SOMERVILLE HASTINGS, F.R.C.S. 1213

General Medical Council: Penal Cases reported by the Dental Board.—Penal Cases Adjourned from Previous Sessions.—New Penal Cases..... 1215

Medicine and the Law: Sale of Poisons in Chemist's Shop.—Unusual Accident in Hospital 1220

National Institute for the Deaf 1221

United States of America: The Chicago Public Health Institute 1222

Institute of Medical Psychology..... 1222

A Children's Hospital Pavilion at Tadworth Court.—*(Illustrated)*... 1223

CORRESPONDENCE.

Appendicitis (Prof. D. P. D. Wilkie, Mr. Herbert J. Paterson).. 1228

Reduction of Benefits of Insured Women (Dr. Mabel L. Ramsay) 1228

Toxic Effects of Phenolphthalein (Dr. C. E. Lowe) 1229

The University of Durham College of Medicine (Prof. R. Morison) 1229

Free Treatment at Venereal Clinics (Dr. H. Wansey Bayly) 1229

Training in Tuberculosis (Mr. Eric A. Crook, Dr. F. H. Young)..... 1230

Obesity Following Subarachnoid Hæmorrhage (Dr. John R. O'Brien) 1230

Puerperal Scarlet Fever (Dr. R. L. E. Downer) 1230

Toxæmia of Pregnancy (Mr. W. C. W. Nixon) 1231

Spontaneous Lactation (Dr. M. N. Neumann).. 1231

THE SERVICES.

Royal Army Medical Corps.—Indian Medical Service.—Royal Air Force.—Honorary Surgeon to the King.—Colonial Service 1234

PUBLIC HEALTH SERVICES.

Annual Reports of Medical Officers of Health 1226

Infectious Disease in England and Wales.... 1227

OBITUARY.

Herbert Watney, F.R.C.P. 1231

William Dove Macfarlane, M.D. 1231

Thomas Fawsitt, M.R.C.S. 1232

PARLIAMENT.

Notes on Current Topics: Children and Young Persons Bill.—Cleansing of Shell-fish Bill 1232

House of Commons: Poor-law Relief.—The Sale of Disinfectants.—First-aid Outfits on Motor Vehicles.—Safety of Life at Sea 1232

MEDICAL NEWS.

University of Cambridge 1234

University of London.... 1234

Memorial to Dame Mary Scharlieb 1207

London School of Hygiene and Tropical Medicine 1234

Eugenics Society..... 1234

Royal Free Hospital 1234

West London Medico-Chirurgical Society.... 1234

Chadwick Trust 1234

Sputum Examinations in Manchester..... 1234

Donations and Bequests 1234

Hospital Openings by the Duchess of York..... 1235

Asiatic Society of Bengal 1235

St. George's Hospital.... 1235

University College Hospital 1235

NOTES, COMMENTS, AND ABSTRACTS.

Homeless Women 1237

Scientific Riddles..... 1237

Deep-sea Diving 1237

Is There a Malarial Pneumonia? 1237

Professional Sidelights .. 1238

The Fear of a High Blood Pressure 1238

A Reference Library for Midwives 1238

Medical Diary..... 1235

Appointments—Vacancies 1236

Births, Marriages, Deaths 1236

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By Walter Howarth, M.B. Camb., F.R.C.S. Eng.,

SURGEON TO THE EAR, NOSE, AND THROAT DEPARTMENT, ST. THOMAS'S HOSPITAL; PRESIDENT OF THE LARYNGOLOGICAL SECTION, ROYAL SOCIETY OF MEDICINE.

Difficulty in swallowing may occur at any moment after the food (solid or liquid) leaves the mouth on its passage past the fauces, through the pharynx, down the œsophagus, and into the stomach. When we consider the normal act of deglutition we find that the bolus of food is, by the action of the tongue musculature, propelled towards the back of the pharynx. As the contraction of the geniohyoglossus and other muscles perform this act, the larynx is drawn forcibly upwards by the action of these muscles and some of the infrahyoid musculature. This action depends on the integrity of the thyrohyoid ligament. This drawing-up of the larynx and the infolding of the arytenoids prevents the food entering or even touching the larynx, and so enables the bolus of food to reach the deep pharynx. This, which is normally closed, opens to receive it, and the sphincter at the beginning of the œsophagus then relaxes. The food and liquid drops straight downwards, unless the bolus of food is a fairly big one, in which case it goes down by the peristaltic action of the gullet wall. The first act is voluntary but may be reflex as in a decerebrate animal swallowing is elicited when water or dilute alcohol are placed in the mouth: the next two are reflex and are dependent on the peristaltic action of the œsophagus; that is to say, on regular waves of contraction preceded by a wave of relaxation. This process continues until the stomach is reached as there is no true sphincter at the cardiac end of the gullet. It will be appreciated that with such a long passage from the mouth to the stomach, and with so many structures involved on the way, the opportunities for some interference with the normal conditions that may cause difficulty in swallowing are very great.

I do not propose to go into all the causes of dysphagia, for that would make rather a tedious catalogue and would serve no useful purpose. For this reason I shall say nothing about acute inflammatory affections of the mouth, fauces, and pharynx, since everyone is familiar for example with the intense pain and difficulty in swallowing that accompanies a quinsy and knows what measures are most likely to relieve it. It is the dysphagia of gradual onset that demands our attention, not only on account of the discomfort that the patient experiences and which requires relief, but also as an index of possible serious disease.

The Mouth and Pharynx.

When a patient complains of discomfort or difficulty in swallowing over any considerable period it is of the greatest importance that a very careful examination of the tongue, pharynx, and larynx be made in the first instance. In some cases it will be found that some chronic inflammatory process is the cause of the trouble, thus, for instance, a well-marked *chronic pharyngitis*, particularly the hypertrophic type with swollen lateral bands that is produced by post-nasal discharge, often gives rise to considerable dysphagia. This is not only on account of the inflamed mucosa being sensitive to the stimulus of the food, but also on account of some underlying myositis which may interfere to some extent with proper coördination of the muscular action. Various forms of *ulceration* at the back of the tongue, on the faucial pillars, or in the pharynx may be responsible, and in this connexion I should like to mention *Vincent's angina*, *syphilis*, and *malignant disease*.

Vincent's angina is much commoner than is usually supposed and causes ulceration of the fauces and back of the tongue which render swallowing difficult, whilst the ulceration due to a breaking down gumma or to a carcinoma often appears far back at the base of the tongue and may escape observation unless a laryngeal mirror is used. Either may, however, involve the pharyngeal wall and impede swallowing very considerably.

There are two other conditions in this region to which I should like to draw attention—namely, *pharyngeal paralysis* and *retropharyngeal abscess*.

PHARYNGEAL PARALYSIS.

Pharyngeal paralysis, especially when slight, is very apt to be overlooked, but it is of great importance that it should be borne in mind, for not only may it account for the dysphagia, but it may also be the first indication of serious disease of the central nervous system. The last four cranial nerves are concerned in the mechanism of speech and swallowing, between which there is a certain interdependence, the act of one inhibiting the act of the other. The nuclei of these nerves are scattered through the medulla, which contains the centre for the deglutition reflex. Degeneration of nuclei within the bulb occurs in the bulbar type of syringomyelia, and dysphagia may be the very earliest symptom of this disease. Other bulbar lesions may also have dysphagia as one of their early symptoms.

The recognition of pharyngeal paralysis is not always easy, but if the posterior wall of the pharynx is carefully inspected and the patient asked to swallow, one side of the pharynx will be seen to move across to the other side, rather like a shutter, the paralysed side being pulled over to the healthy side. When pharyngeal paralysis is observed a laryngoscopic examination may reveal a paralysis of the cord, and the diagnosis of a bulbar lesion be thus confirmed.

In bulbar palsy dysphagia may be an early symptom, not only because of weakness of the pharyngeal muscles during the second stage of swallowing, but also because of loss of power in the tongue so that the food is passed back into the pharynx with difficulty. Myasthenia gravis may give rise to dysphagia and in this case a careful look-out for associated symptoms will probably make the diagnosis certain. It is extraordinary for how long some of these cases go on without getting markedly worse.

I have still under observation a man, after 12 years, whose first symptom was dysphagia associated with hoarseness due to a paralysed vocal cord in whom, after a year or two, an atrophy of half of the tongue supervened. For many years his condition has been stationary and he is still at work, and the bulbar lesion does not appear to have progressed.

The paralysis of the pharyngeal muscles following diphtheria is, of course, well known, and dysphagia following an attack of diphtheria would naturally receive appropriate consideration.

RETROPHARYNGEAL ABSCESS.

Retropharyngeal abscess is usually seen in children as an acute process, but at times it develops in adults

* Read at a meeting of the East Sussex Medico-Chirurgical Society on March 10th, 1932.

and gives rise to marked difficulty in swallowing. Unless the occurrence in its chronic form is appreciated its presence may well be overlooked. Recently I have had two cases that illustrate this point.

The first was a lady who had marked dysphagia over a period of several months and in whose pharynx I found a soft fluctuating swelling which on examination with the laryngeal mirror was seen to extend as low as the arytenoid. When this was opened and the abscess drained the dysphagia disappeared. The origin of this abscess was obscure but in all probability was due to tuberculous infection of the retropharyngeal gland of Henle.

The other case was a man with a congested beefy-looking pharynx which on closer examination was seen to be fuller on the left side. Examination with the mirror showed a larger swelling on the lateral wall of the pharynx quite low down. Incision produced a quantity of pus and relieved the dysphagia. As the Wassermann reaction was positive it is probable that it was of syphilitic origin.

As these abscesses of retropharyngeal origin tend to track downwards and point in the hypopharynx, they may often be overlooked. If no definite local cause in the region of the pharynx is seen we may have to do with the so-called functional dysphagia. This usually occurs in young females and may be one of the first symptoms of hysteria. It takes two forms —a paralytic and a spasmodic. There is either a difficulty in moving the bolus of food from the mouth into the pharynx (the first stage of deglutition) or else it cannot be passed from the pharynx into the gullet (second stage) and is, as a rule, rejected. Once the food gets into the gullet it passes downwards all right. The complaint of "a lump rising in the throat" or "a ball coming up to meet the food" is a common one.

The diagnosis of functional dysphagia, frequent though is its occurrence, should not be made until all possible organic causes are excluded.

The Larynx.

We now come to the region of the larynx and a consideration of the conditions in this neighbourhood which may give rise to difficulty in swallowing. Apart from the inflammatory affections, it may be said that they are usually of a serious nature. Examination with a laryngoscopic mirror may reveal abnormal conditions in the epilaryngeal region or in the sinus pyriformis. A swollen and infiltrated epiglottis and arytenoids may be due to tuberculous disease, a deep crater-like ulcer due to a breaking-down gumma, or to malignant disease. Dysphagia in such cases may be severe and may often be accompanied by pain which radiates to the ears. The difficulty in swallowing is often an early symptom as any process which causes swelling of the structures at the entrance to the larynx will prevent this from being drawn upwards into the base of the tongue, and the food or fluid will touch the swollen epiglottis or arytenoid, and dysphagia thus occurs owing to undue spasmodic contraction of the pharyngeal musculature. Often fluids present more difficulty than semi-solids or solids.

The Œsophagus.

The gullet begins at the lower border of the cricoid cartilage and is guarded by a sphincter which normally relaxes during the third stage of deglutition. Inspection of this region is beyond the range of mirrors and we have to rely on other methods of examination in order to find out what is the nature of the obstructions that occur. That this examination is important is clear when it is realised that in the œsophagus alone there are to be found at least 30 causes for dysphagia. I need hardly say that I do not propose to deal with all of these, but shall select a few that seem to me to be of importance. When, after exclusion of all possible lesions higher up, it is thought that the cause is an œsophageal one, what are the methods of examination that are at our disposal? They are mainly two: examination by X rays before the fluoroscopic screen and direct œsophagoscopy with suitable tubes. The time has long passed when examination by the blind passage of bougies was justifiable and all examinations of the gullet should be conducted under direct vision.

RADIOSCOPY.

With regard to the X ray examination, it is important that this should be conducted by the surgeon and the passage of the opaque fluid be actually observed. Only by this means can a proper idea be obtained of the behaviour of the various portions of the gullet. Hesitation at the orifice, a slowing at the aortic level, or a complete hold up at the cardia with subsequent filling of the œsophagus above it may all be seen, whilst the passage of the fluid through a stricture, the irregularity or otherwise of the stream, may all throw light on the nature of the obstruction that a single photograph, however skilfully taken, might fail to elucidate. This examination is conducted with the patient upright before the screen and in the lateral position. An examination in the anterior position should, however, never be omitted for by this means one can get an idea of the thoracic organs (heart, lungs, aorta, &c.) and eliminate external pressure on the œsophagus as a cause of stenosis.

ŒSOPHAGOSCOPY.

After the radiographic investigation the patient should be examined with the œsophagoscope. This may be carried out under either local or general anæsthesia. If local anæsthesia is preferred it is well to give the patient an injection of morphine and scopolamine and then to use a 20 per cent. solution of cocaine for the local application. The most effective way of producing the required anæsthesia is to pass the forceps or swab-holder containing the gauze or wool which has been soaked in this solution behind the posterior faucial pillar and then carry it downwards until the pyriform fossa is reached. The superior laryngeal nerve runs across the floor of the sinus, and if the wool is kept in contact with it for a few moments on three occasions at three minute intervals, the surgeon will then be able to pass the œsophagoscope into the gullet without any discomfort to the patient. The patient should be lying down on his back and the head should not be unduly extended. Many people prefer general anæsthesia and it is certainly preferable in many cases, particularly on the first occasion, for a larger tube can often be used and the lower part of the gullet investigated more thoroughly. I have found avertin, administered half an hour before the examination, of very great use, for practically no general anæsthetic is then required.

Are there any contra-indications to œsophagoscopy in the endeavour to locate the source of dysphagia? Naturally the presence of an aortic aneurysm is a definite bar, whilst if it is suspected that the dysphagia may be due to the swallowing of corrosive or caustic fluids, œsophagoscopy should be withheld until sloughing has ceased and the inflammation has subsided. The extremes of age are not a contra-indication.

I should now like to present a few of the œsophageal conditions that may be met with and give rise to dysphagia, but before passing to the various organic conditions which may give rise to dysphagia it will, I think, be advisable to consider spasmodic stenosis of the œsophagus.. It is now recognised

that spasm may occur at the entrance to the gullet as well as at its lower end, and the train of symptoms that is met with is usually a very definite one.

Spasm of the Œsophagus.

Spasm at the Upper End.—The patients are almost always middle-aged women and the outstanding symptom is difficulty in swallowing which is located at the level of the larynx. The diet is gradually reduced until milk, fluids, and eggs are the staple fare. Choking fits occur and are dreaded so much that great care is taken in eating and an hour may be taken in eating an egg and a thin slice of bread and butter. The food taken is insufficient and the patients become emaciated. About a third of them are anæmic.

It is found that most of these patients have superficial glossitis and cracking of the corners of the mouth and that these changes may extend to the upper end of the gullet. The association of spasm of the pharyngo-œsophageal sphincter with glossitis, anæmia, and enlargement of the spleen has been recognised for some time in this country and recently a series of cases has been reported in America and the association of symptoms has there been given the name of the Plummer-Vinson syndrome. A cure can usually be effected by the administration of iron and arsenic and the passage of the œsophagoscope to stretch the crico-pharyngeus sphincter.

Spasm at the Lower End.—For many years opinions have differed, often violently, as to whether the spasm and consequent hold-up that occurs at the lower end of the gullet is a true spasm or not. Certainly the structures involved differ very markedly. In pharyngo-œsophageal spasm the muscle involved is striated and strong, whereas at the lower end it is unstriated and yielding, as there is no true sphincter at the cardiac end of the œsophagus. Whether cardiospasm is a correct term or whether we should more properly call it achalasia of the cardia (which means want of relaxation) need not be discussed on this occasion. We are content to recognise the clinical entity. The onset of the disease is invidious and may extend over months or years. The usual complaints are occasional difficulty in swallowing, and, after meals, a sensation of weight in the epigastrium which is relieved by drinking or by regurgitation of the food. The discomfort is often only temporary and is thought to be due to gastric disturbance. At a later stage there is dysphagia and regurgitation of food at every meal, liquids often presenting the most difficulty. Careful inquiry as to the dysphagia will elicit the fact that it is usually referred to the lower end (though occasionally the cricoid may be mentioned), that it is intermittent and varies in degree, normal meals often being taken after one slight hold-up has been overcome, whilst at other times nothing whatever can be swallowed. Regurgitation, the other main symptom, is often wrongly referred to as vomiting. It may occur at every meal or only intermittently. Often regurgitation is immediate and the patient retains no food. Occasionally the regurgitation is excited by the patient himself in order to get rid of the saliva and food that has collected in the gullet; swallowing is then easier. Pain at the cardia and excessive salivation are other symptoms that are complained of.

Examination of the patient at the X ray screen shows a typical picture. The barium meal drops straight to the cardia and is held up there, the dilated œsophagus then fills up and presents a sausage-shaped outline. No fluid may trickle through into the stomach for minutes or hours. Then the cardia relaxes and all the meal goes through quickly.

Œsophagoscopic examination shows an enormously dilated œsophagus, often containing pints of cloudy grey fluid containing soft masses of food. There may be sagging of the dilated gullet so that the gullet seems lengthened and the mucosa is often thrown into folds. The contact of the tube often causes the cardia to shut firmly, but under gentle pressure it usually relaxes and the stomach is entered.

The diagnosis of this affection from malignant disease should not be difficult if attention is paid to the history and careful radiographic and œsophagoscopic examinations are made. Treatment is a matter of great difficulty and the best results are often obtained by forcible stretching of the cardia with mercury filled tubes or dilating bags. The use of belladonna or papaverine is often helpful. Endocrine therapy has improved some patients, but there is a great tendency to relapse and these cases are among the most difficult with which we have to deal.

Organic Causes of Œsophageal Dysphagia.

When we consider organic conditions we have, in the first place, abnormalities of the gullet. I shall mention only one and that is congenital stricture.

CONGENITAL STRICTURE.

This is by no means uncommon, especially that variety in which the lumen is only partially occluded by the web. Sometimes it may go unrecognised for many years.

Some years ago I saw a boy of 4 years of age who had never been able to swallow food properly and who was very emaciated and undersized. On examination of his œsophagus I found a web in the middle third, and the lumen through this was about the size of a large knitting needle. After careful dilatation of the stricture with graduated bougies the lumen was increased in size, so that ordinary food could be swallowed. The boy gained weight rapidly and soon became a normal child. He has been kept under observation for many years, and the œsophagoscope passed occasionally, further dilatation being carried out about every two years.

It is of the greatest importance that the dilatation should be very gradual. If any attempt is made to hurry matters a fatality is certain to occur, as the gullet wall is extraordinarily thin, and overstretching of the stenosis may easily cause a linear tear with subsequent mediastinitis. I have had one case of this nature in which dilatation had been carried out for many years and then, whilst an attempt was being made to enlarge the lumen too rapidly, the gullet wall was split. If the utmost care is used there should be little or no risk of mortality, and the lumen can be enlarged so that any well-masticated food can be swallowed. Congenital stenosis, if not an absolute atresia, yields more readily to œsophagoscopic bouginage than does cicatricial stenosis.

CICATRICIAL STENOSIS.

Cicatricial stenosis or fibrous stricture is met with rarely in this country in comparison with such countries as America or Germany. The reason for this is that in the countries mentioned proprietary washing and cleaning powders containing caustic alkalis are very largely used, and are sold in packets at every grocers without any poison label or even any indication of the contents of the package, so that it is no uncommon thing for utensils which have been used to measure or dissolve the powders to be afterwards used for drinking without rinsing, and thus the residue of the powder remaining is swallowed in strong solution. The accidental swallowing of caustic alkalis is thus a very frequent cause of cicatricial stenosis. In this country household

ammonia, salts of tartar (potassium carbonate), washing-soda, mercuric chloride, and strong acids when swallowed may give rise to cicatricial œsophageal stenosis. It may also be caused by lesions resulting from syphilis, tuberculosis, typhoid fever, scarlet fever, or diphtheria. When due to the swallowing of corrosive fluids the strictures are often multiple.

It will be remembered that the lumen of the gullet is not uniform throughout its length and that there are three places where the lumen is narrowed: the first is at the entrance which is guarded by the cricopharyngeus, the second where the left bronchus and aortic arch cross it, and the third at the diaphragm. When fluids are swallowed they are apt to touch the gullet wall at these points and consequently stenosis usually occurs at them. The crossing of the left bronchus is the commonest site.

When the stricture has been located dilatation must be attempted. Blind methods of dilatation with the bougie are almost certain to result in death from perforation of the gullet wall, but under œsophagoscopic bouginage the prognosis is favourable as to ultimate cure, the duration of the treatment varying with the number of strictures, the tightness and the extent of the tissue changes in the œsophageal wall. Of recent years attempts have been made to improve the methods of progressive dilatation. One of the newer ways is first of all to perform a gastrostomy and then give the patient a silk thread to swallow. This is eventually brought out through the gastrostomy wound; successive bundles of silk threads are pulled through the gastrostomy opening into the stricture. When the stricture is sufficiently dilated the gastrostomy is allowed to close. Another ingenious method is to have graduated metal olives threaded on the silk in groups of three quite close together in an endless chain which passes through the mouth, down the gullet, through the gastrostomy opening and into the mouth again. The olives, as they pass the stricture, fall into the stomach and are then drawn out through the gastrostomy wound, cleansed, and replaced in the mouth. Treatment may have to go on for months or a year, but the results are most satisfactory.

DIVERTICULA.

The next condition to which I wish to draw your attention is diverticulum of the œsophagus or œsophageal pouch. These occur at the upper end and are really pharyngeal in origin, but the symptoms are mainly œsophageal. The pouch is simply a hernia of the mucosa between the circular and oblique fibres of the inferior constrictor in the region of the lower border of the cricoid. Probably some congenital anatomical factor is responsible for the weakness of the muscle wall in this situation in these cases. Dysphagia is the first symptom and this is followed by regurgitation of the food, or rather that portion that has passed into the pouch. In more advanced cases pressure sensation in the neck and even local swelling when the pouch is filled is felt. This may sometimes be emptied under pressure. Tracheal compression may produce dyspnœa, whilst overflow from the pouch during sleep may give rise to a reflex paroxysmal cough. The X ray appearances when bismuth is swallowed is most characteristic, whilst œsophagoscopic examination will reveal the mouth of the pouch and, lower down, a slit-like entrance into the true œsophagus.

Treatment consists in the exposure of the pouch by incision through the neck and the suturing of its fundus upwards against the pharynx. After adhesions have formed round the neck of the sac and walled off the mediastinum, the pouch may be cut off and the wall invaginated and sutured.

ULCERATION.

Apart from the traumatic form due to the swallowing of foreign bodies or corrosive fluids, ulceration of the gullet is uncommon but may occur in syphilis or tuberculosis. I should like, however, to draw attention to peptic ulcer of the gullet as a cause of dysphagia. These ulcers, which are not as uncommon as is often supposed, occur in the lower part of the œsophagus, and, besides the dysphagia, they may give rise to severe pain in the back with vomiting of blood. Cases have been recorded in which such an ulcer has perforated into the pleural cavity with fatal results. Œsophagoscopy can alone differentiate these ulcers from malignant ones. Treatment consists in the application of silver nitrate to the ulcer and the free use of alkalis. Gramme doses of bismuth subnitrate are said to have a local antiseptic action.

FOREIGN BODIES.

I do not propose to say more than a few words about foreign bodies, though these are not infrequently swallowed, and when they remain lodged in the œsophagus, dysphagia is the most frequent complaint. In the large majority of cases there is a definite history of a foreign body and the diagnosis is not in doubt. The question will always arise as to whether the foreign body is still impacted or whether it has passed on and left some damage to the wall of the pharynx or gullet that may be responsible for the symptoms of dysphagia. In a great many cases X ray examination will be helpful, especially when the metallic bodies are concerned, but a good many objects, particularly fish bones, meat bones, and so forth are non-opaque to X rays. My rule is to wait on events, and if the discomfort persists or increases after two days to advise œsophagoscopy. It is far better to be on the safe side, and that one's examination should be negative, rather than miss some fragment of bone that is impacted in the wall of the gullet and which might give rise later to perforation, with resulting erosion of a vessel or mediastinal abscess. I regard meat or game bones as the most dangerous type of foreign body. It is a mistake to try to force a foreign body into the stomach with a bougie, for on more than one occasion the gullet wall has been ruptured by this method with fatal results. Blind instrumentation, in view of the safety and success of œsophagoscopy, is, I think, always reprehensible.

Malignant Disease of the Œsophagus.

We must now turn our attention to malignant disease, as this unfortunately provides the majority of cases of dysphagia that are met with. Carcinoma of the gullet is commonest at the lower end and rarest at the upper end, but it is, I think, that which occurs at the aortic level which is often most prominently before us, as the signs and associated symptoms often bring about its recognition at an earlier date, whilst carcinoma at the lower end may present almost no symptoms until it is almost in its terminal stages.

Dysphagia is the commonest symptom and very often the onset is sudden. Sometimes it may come on as a choking fit at meal-time, and often, when the growth is low down, the feeling of obstruction may be referred to the cricoid region, so that the patient's sensation with regard to the site of obstruction is by no means trustworthy. It is a common thing for pain to be referred to the lower end of the sternum. Sometimes an early symptom is paroxysmal cough

due to reflex vagus irritation, whilst hiccup is sometimes complained of, particularly when the growth is low down. In a large number of cases the degree of dysphagia is not at all severe and often amounts to no more than a vague sense of something being not just quite right with the swallowing function. If this is associated with occasional choking or coughing, particularly with fluids, and if the subject is elderly, too much time should not be lost in trying palliative measures.

It should be remembered that marked dysphagia, regurgitation, emaciation, and cachexia are terminal symptoms when the disease has progressed beyond all possibility of cure, and that careful investigation should be made long before such symptoms arise. X ray examination before a fluoroscopic screen may show a hold-up in any of the situations mentioned previously. The hold-up is not absolute but the bismuth will be seen to trickle slowly through the stricture, which often presents an irregular outline. There may, however, be a considerable mass of bismuth held up above the stricture. This may be due to spasm of the gullet wall. If the growth is at the diaphragmatic level, again the growth will probably be seen to be tortuous and a trickle of bismuth to go continuously into the stomach. Sometimes a high stomach growth, that is to say, one involving the abdominal œsophagus just below the diaphragm, may cause a curious appearance, part of the bismuth being held up above the diaphragm and part below.

Œsophagoscopic examination is, of course, essential if an accurate diagnosis is to be made, not only with regard to the nature of the growth but also with regard to its exact situation and extent. It is very unfortunate that in the large majority of cases one does not see the condition in an early enough stage for operative measures to be effective. Occasionally, however, quite early growths are met with. These may be seen on the wall of the gullet with little or no infiltration of it. If such a growth were to appear high up the possibility of excising the growth by incision and exposure in the neck would of course arise. Usually, however, the growth extends a little further down than one expects and, in addition, this part of the œsophagus is not very easy to mobilise. The only place in the thoracic œsophagus where excision is at all possible is about two inches above the diaphragm, and growths seldom appear in this situation.

NON-OPERATIVE TREATMENT.

With regard to other forms of treatment, these consist in the application of radium, removal by diathermy, deep X ray therapy, or the palliative use of intubation tubes.

Not much real success has been achieved by the use of *radium*, though many cases have been treated, and I myself have used it since 1912. The methods of application and the operative technique connected with them have altered and improved considerably, but the results remain frankly disappointing. The radium may be applied as the element in suitable containers, or wrapped round some form of intubation tube so that swallowing may be carried out with the radium in position. Another method is to implant radon seeds into the wall of the œsophagus above the growth and into the growth itself. A third method is to expose the gullet by lateral thoracotomy after having collapsed the lung two days previously. I have done several cases by this method, which not only gives a very good exposure of the lower part of the gullet but also serves to show how hopeless intra-œsophageal attempts at medication may be. When one has exposed the gullet and put one's hand along it, one finds that what seems with the œsophagoscope to be a very small growth is in reality a tumour the size of one's fist stuck on to the aorta and immovably fixed to the root of the lung, so that it is impossible to mobilise it and still less to implant radon seeds completely round it. On several occasions I have obtained considerable temporary relief by merely implanting the radon seeds in the more accessible portions of the growth, as well as using them internally at the same time. It is extraordinary how little discomfort the external thoracotomy gives the patient, and a few days suffice for the lung to expand again.

Deep X ray therapy has not as yet had much of a trial in this country, as there are so few efficient apparatuses in existence here as yet, but it should, I think, give satisfactory temporary results in selected cases.

Intubation.—A large majority of the cases that one sees, particularly those in hospital practice, are so advanced that little remains to be done except to make them comfortable and improve the swallowing for the time being. This is best effected by the use of flexible metal tubes such as Souttar's tube. Any growth that will admit the finest bougie can be dilated sufficiently to take a fairly large tube, and this can remain in position indefinitely. Meanwhile the patient is able to swallow semi-solids and fluids through it with comfort. I have had one patient who wore the tube for 18 months before the growth extended through the mediastinum into the lungs and eventually eroded the aorta. At the post-mortem the metal tube was found still in position in the lumen of the gullet and functioned to the end.

The most distressing feature of carcinoma of the œsophagus, particularly in its terminal stages, is the excessive salivation, and if the stricture is impermeable the constant expectoration every few minutes, both day and night, renders the existence of the patient one of abject misery. A gastrostomy does nothing to relieve this, so that if an intubation tube, however small, can be placed in the middle of the growth and the saliva enabled to trickle through it the comfort of the patient is enormously increased.

Dysphagia due to Pressure on the Œsophagus.

A few words should be said about extra-œsophageal conditions which may press on the gullet and so cause dysphagia. Amongst those that may be mentioned are malignant disease of the thyroid, tuberculous glands, or malignant glands of the neck that may compress the tube in the cervical region. Aneurysm of the arch of the aorta, enlarged bronchial glands, and mediastinal new growths are the most common intrathoracic lesions. In all these cases associated pressure on the recurrent laryngeal nerve may make laryngeal paralysis coexistent and simplify the diagnosis. X ray examination will in most cases be very helpful, whilst in all except aneurysm of the aorta œsophagoscopy is essential.

OUT-PATIENTS' PAYMENTS AT GUY'S HOSPITAL.—Beginning on May 16th out-patients at Guy's Hospital are now being asked to pay a registration fee of 1*s.* on first attendance. Children under 16 will pay 6*d.*, and other charges are fixed as follows: drugs and dressings, 1*s.* per week; massage, 6*d.* per treatment (children 3*d.*); light department, 1*s.* per week; vaccine department, 1*s.*; X ray examination, 2*s.* 6*d.* No charge will, however, be made in hard cases. Last year there were 122,867 out-patients, who made 554,606 attendances. Guy's does not, of course, stand alone in making a small charge to out-patients who can afford to pay it.

THE TECHNIQUE OF EXPERIMENTAL PNEUMOCONIOSIS.*

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(WITH ILLUSTRATIVE PLATE.)

A GREAT deal has been learnt about the pathology of silicosis from the study of human material, but there are still wide gaps in our knowledge. For example, even in simple uncomplicated silicosis it is not yet absolutely clear how the characteristic lesion is produced, nor can we claim exact knowledge of the way in which the tubercle bacillus reacts to the presence of silica in the lung. It is possible that these and other questions could be solved by observation alone, but many of the industrial pulmonary diseases present problems of such complexity that only by experiment are we likely to make progress in their comprehension and control. This has been recognised by all who have worked in this field, and experimental studies have been pursued in this country and abroad for many years.

Exposure to Dusty Atmospheres.

For the direct study of pulmonary lesions the method adopted by practically all experimenters is to expose animals for varying periods of time to dusty atmospheres produced either in boxes or in actual rooms, and this would seem the most obvious technique to employ, for it imitates the natural conditions to which industrial workers are subjected. Nevertheless it has several disadvantages, some so serious as to limit its practical value very considerably. It may be that the method is irreplaceable for the investigation of the earliest pulmonary reactions to particulate matter, the behaviour of phagocytes to different dusts, and so forth. But we are to-day vitally concerned with the production of actual dust lesions in the lungs of experimental animals, because before we can study how the action of silica in the lung may be modified by the presence of other dusts or by infection, we must be able to reproduce the pure silicotic lesion in our experimental animals, and the production of experimental silicosis is the necessary preliminary to the investigation of the toxicity of the other dusts which occur in industries. L. U. Gardner and his colleagues have produced recognisable silicotic lesions in the guinea-pig and the rabbit by the inhalation method, but they make it quite clear that results cannot be obtained unless the animals are dusted continuously for periods measurable in years rather than months, and herein lies the main difficulty of the method. By various mechanical devices it is possible to produce in a confined space an atmosphere containing the appropriate concentration of suspended particulate matter, and the maintenance of such an atmosphere for a period of years is merely a matter of organisation, though it must depend for its success on the coöperation of laboratory assistants who are more than usually reliable. The number of animals used in each experiment must be large to compensate for the wastage which is sure to occur. H. S. Willis [1] has noted the high mortality of dusted animals as compared with controls kept under ordinary laboratory conditions. Of a batch of 75 guinea-pigs which were dusted for between two and three years, only 18 were alive at the end of this time. Here, again, the care and identification of a hundred or more animals for a period of years is merely a matter of organisation, and no doubt one experiment of this kind could be carried out without any great difficulty. But it would be impossible to conduct simultaneously a series of such experiments in any ordinary laboratory, and unless the further experimental investigation of these diseases is to be restricted to a few institutions unusually fortunate in regard to space, equipment, income, and personnel, some other technique must be adopted.

* The expenses of this work were defrayed by a grant from the Medical Research Council, and one of us (R. H.) has been in receipt of a personal grant.

LEGENDS TO ILLUSTRATIONS ON PLATE.

PROF. KETTLE AND DR. HILTON.

FIG. I.—Lung of a guinea-pig killed 14 days after intratracheal injection of kaolin; macrophages and syncytial cells lying free in alveoli.

FIG. II.—Lung of a guinea-pig killed on the 336th day after intratracheal injection of a large dose of kaolin. The lung is practically solid with phagocytes containing kaolin crystals, but no reaction of the pulmonary tissues has yet occurred.

FIG. III.—Three nodular collections of phagocytes containing quartz crystals in the lung of a rabbit killed on the 385th day after intratracheal injection of quartz.

FIG. IV.—One of the nodules in Fig. III. under high magnification, showing early increase in collagen.

FIG. V.—Characteristic early silicotic nodules in tracheobronchial lymph gland of a rabbit killed on the 557th day of the experiment, having had three intratracheal injections of quartz.

FIG. VI.—A high magnification of part of Fig. V., showing the development of the laminated silicotic nodule in an early stage.

Direct Intratracheal Injection.

Some years ago one of us becoming dissatisfied with the dusting technique began to experiment with direct intratracheal injections. Unfortunately this work was interrupted but not before indications were obtained that the method had possibilities. It was found that rabbits and guinea-pigs tolerate the introduction of suspensions of particulate matter into the lung by way of the trachea surprisingly well. And the lungs of such animals killed at varying times after the inoculations showed microscopic pictures comparable with those found in animals to which similar dusts had been administered by inhalation. These experiments were cut short, and the animals were killed before pulmonary lesions had time to develop, but during the last three years we have gone further into the matter and have obtained results which are distinctly promising.

TECHNIQUE.

This communication is concerned with the technique we have elaborated. As our suspending fluid we use sterile normal saline solution and to this is added the appropriate quantity of the dust it is desired to introduce, the suspension being freshly prepared and autoclaved before use.

The animals are anæsthetised by urethane, the trachea is identified by palpation, and a nick is made in the skin over it. The trachea is then exposed by blunt dissection aided, if necessary, with a few snips with a pair of scissors, and the needle is thrust into it in a downward sloping direction. The animal is raised to a vertical position and

FIG. I.

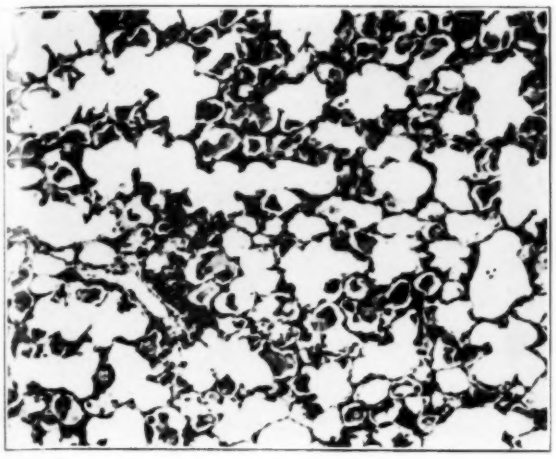


FIG. II.

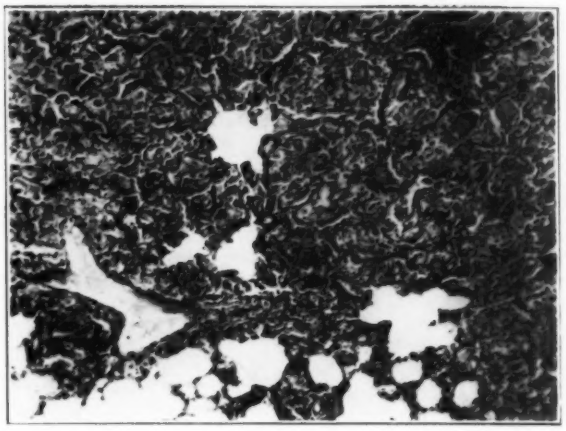


FIG. III.

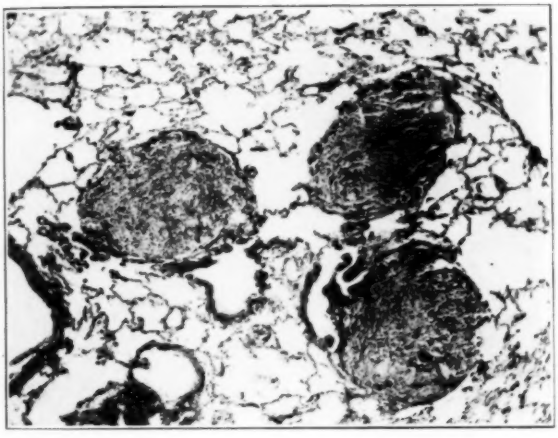


FIG. IV.

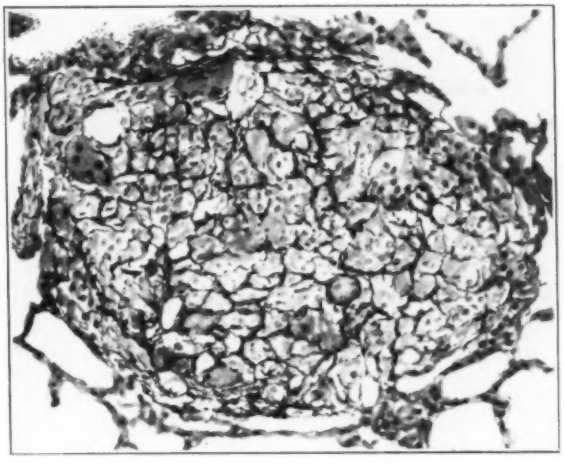
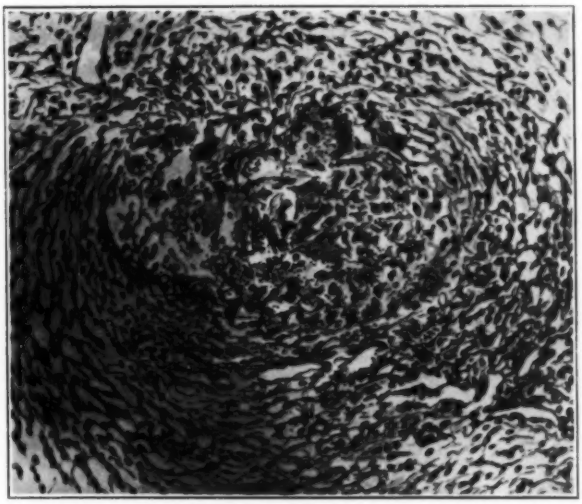


FIG. V.

FIG. VI.



PROF. KETTLE AND DR. HILTON: THE TECHNIQUE OF EXPERIMENTAL PNEUMOCONIOSIS.

DRS. POYNTON AND LIGHTWOOD: LYMPHATIC LEUKÆMIA.

FIG. I.

FIG. II.

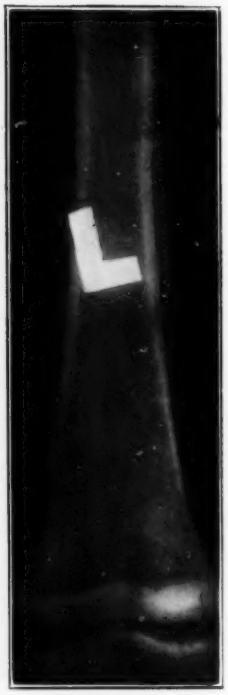


FIG. III.

FIG. IV.

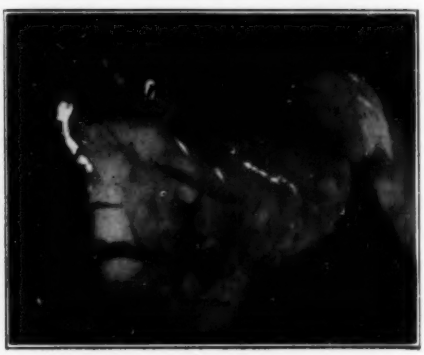
DR. VILVANDRÉ: CALCIFICATION OF ABDOMINAL AORTA.

FIG. I.

FIG. III.

FIG. II.

FIG. IV.



the suspension is injected under gentle pressure. The introduction of the fluid, and even the mobilisation of the trachea, is often followed by one or two coughs, and there may be some regurgitation through the nose, but the greater part of the inoculum passes directly into the lungs. The needle is then withdrawn and the skin incision closed with a catgut suture. Beyond damping the skin with methylated spirit, more for the purpose of controlling the fur than for any other reason, no special precautions are taken against sepsis. We have not found it necessary to apply anything in the shape of a dressing, and we have never observed any local infection. It is possible, of course, to insert the inoculating needle directly into the rabbit's trachea through the uncut skin, and the same can be done, though with much less certainty, in the guinea-pig. But it is also easy to miss the trachea unless it is fully exposed, and since one of our main objects was to use as few animals as possible, we preferred to be quite certain that all our injections actually reached the lungs. We have found, however, that excessive manipulation of the tissues of the neck especially in guinea-pigs is likely to be followed by a heavy mortality in the early days of the experiment. The more rapidly and cleanly the inoculations are performed, the fewer are the immediate casualties, and in our later experiments we have lost relatively few animals—about 10 per cent.

In our early experiments we used dilute suspensions and injected relatively large doses, but recently we have used thicker suspensions, 3 or 4 per cent., and have injected only 1 to 2 c.cm., with apparently much better results. When using such thick suspensions there is always the danger of clogging the larger air passages, but this can be avoided by injecting a little air after the inoculum, thus blowing the fluid into the alveoli. With many dusts it is convenient to inject with an ordinary record syringe and needle, but some of the crystalline preparations tend to stick between the barrel of the syringe and the plunger, and with these it is more convenient to use a glass tube and a large rubber teat, connecting the tube to the needle by thin rubber tubing.

With this method it is easy to inoculate 20 to 30 animals in an hour with amounts of dust which compare very well with the quantities inhaled after many hours in the dusting chamber. If desired the inoculations can be repeated at, say, monthly intervals, and some of our animals have received three or four separate doses.

ADVANTAGES OF THE METHOD.

Once the animal has survived the inoculation it is subjected to no more risk than any member of the laboratory stock; its expectation of life is equally good, and, in fact, we have very few casualties among our animals after the first month of the experiment. The advantages of this method are self-evident; the necessity for the cumbersome dusting plant is avoided, and the laboratory staff is relieved from the supervision of the daily dusting of large numbers of animals over a period of years. The actual number of animals used can be reduced to a minimum. In an experiment involving 30 guinea-pigs, for example, one would expect to have at least 20 to 25 animals alive at the end of three months, and apart from accidents and laboratory epidemics there is no reason why any of these survivors should die except of old age. Again, there is no necessity for the large amounts of dust which the dusting chamber demands; quite small quantities are sufficient, in itself a matter of some importance, and the economy of the method makes it possible to carry out several different experiments simultaneously. We have at present a series of nine experiments in progress, each involving the use of separate dusts or combinations of dusts, and this would have been quite impossible if for each experiment a separate dusting chamber had been required. These advantages, however, fade into insignificance unless it can be shown that the method gives results which can stand comparison with those of the older technique. Our work has not been in progress sufficiently long for us to have produced anything like end-results. Silicosis is a chronic condition taking years to develop, and there is no known method by which the characteristic fibrosis can be accelerated. But so far as they go our results show that the method fulfils certain fundamental requirements.

1. The introduction of the dust suspension into the lungs in the quantities described causes no recognisable trauma of the pulmonary tissue, and there is no apparent difference between the reaction of the lung to dust introduced in this way and dust which is inhaled. Fig. I. is taken from a section of the lung of a guinea-pig killed 14 days after intratracheal injection of 3 c.cm. of a suspension of kaolin. (After removal from the body the lungs in this and the other experiments were distended and fixed with formal saline solution injected through the trachea.) The lung is in no way disorganised. Numerous macrophages and syncytial cells containing kaolin crystals are seen lying free and evenly distributed in the alveoli. The appearance corresponds with that seen in dusted lungs.

2. A very high dust saturation of the lung can be brought about though its distribution may be patchy. Fig. II. is taken from the lung of a guinea-pig killed on the 336th day after the intratracheal injection of a large dose of a concentrated suspension of kaolin. In the part illustrated the lung is practically solid, the alveoli being filled with phagocytes containing the large kaolin crystals. There is as yet no reaction of the actual pulmonary tissues.

3. Dust introduced into the lungs by this method produces lesions which appear to be quite characteristic.

Our earlier results were rather disappointing, since we failed to produce lesions in what we hoped would have proved sufficient time for dusts to have caused fibrosis.[3] But it appears that however the silica reaches the lung, whether as a single massive dose or in repeated inhalations, time is an essential factor in the reaction. Our later results are much more promising, for example:—

Fig. III. is from the lung of a rabbit killed 385 days after intratracheal injection of 5 c.cm. of a suspension of powdered quartz. The section shows three nodular collections of phagocytes, many of which contain quartz crystals.

Fig. IV. is a drawing of one of the nodules under a higher magnification; it shows the early increase of

LEGENDS TO ILLUSTRATIONS ON PLATE.

DRS. POYNTON AND LIGHTWOOD.

FIG. I.—Bone changes in acute lymphatic leukæmia. Note the periosteal "layering" of the humerus and erosion of the cortex near the lower end of the bone.

FIG. II.—Periosteal changes in the shaft of the femur.

FIG. III.—Periosteal "layering" in healing congenital syphilis. (Patient aged 10 months.)

FIG. IV.—Radiogram of tibia and fibula from case of scurvy in a child aged 10 months. Stage of organisation of the subperiosteal hæmorrhage.

DR. VILVANDRÉ.

FIG. I.—Extensive calcareous degeneration of the atheromatous abdominal aorta.

FIG. II.—Calcification of popliteal artery in a case of intermittent claudication. The tibial artery and the dorsalis pedis and its branches also showed extensive calcification.

FIG. III.—The left coronary artery and its branches injected with lipiodol.

FIG. IV.—Post-mortem radiogram of heart showing calcareous atheromatous degeneration of coronary (white patches).

collagen, the first stage in the formation of the typical fibrous nodule.

Fig. V. is from the tracheo-bronchial lymph gland of a rabbit killed on the 557th day of the experiment; it had received intratracheal injections of quartz suspensions on the 1st, 158th, and 217th days. The gland shows characteristic early silicotic nodules.

Fig. VI. is a drawing of a higher magnification of a part of the lesion illustrated in Fig. V.; it shows the development of the laminated silicotic nodule in an early stage.

Conclusions.

1. A technique is described for the introduction of dust into the lungs of experimental animals by intratracheal injection.

2. The reaction of the lung to dust introduced by this method is essentially the same as to dust introduced by inhalation.

3. The results obtained indicate that the direct intratracheal injection of dust into the lungs may advantageously replace the dusting chamber for many purposes for which it has hitherto been considered necessary.

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LYMPHATIC LEUKÆMIA,

WITH INFILTRATION OF PERIOSTEUM SIMULATING ACUTE RHEUMATISM.

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(WITH ILLUSTRATIONS ON PLATE.)

WE are publishing this case in continuation of the study of unusual features that may be met with in children suffering from conditions such as leukæmia, grave anæmias, and lymphadenoma. A paper previously published in this journal has dealt with osseous and arthritic manifestations in two cases [1]; another dealt with the occurrence of infective granulomata with streptococcal infection.[2] Though such cases are quite unusual, they serve a useful purpose for those who are particularly interested in the diseases in question. Furthermore, the case we are about to describe is one of no little clinical interest on account of its differential diagnosis.

CASE HISTORY.

A girl, aged 3 years and 7 months at the time of her death, was the fourth child of healthy parents, and there was nothing significant in the family history. Measles and pertussis occurred at about the age of 12 months. She contracted chicken-pox three months before admission to hospital, and after this her appetite became poor.

History of illness.—The first symptoms of leukæmia began seven weeks before her death. There was a complaint of pains which flitted from joint to joint, beginning in the knees and going to the ankles, wrists, and finger-joints in turn; only one or two joints were involved at a time. Her temperature was found to be 101° F., and she sweated when asleep. Two weeks after the onset she developed a slight cough. Ten days before admission one ankle became swollen and tender and the doctor in attendance made a diagnosis of acute rheumatism. The swelling of the ankle subsided, but later it was noted that she did not move her left arm freely, though she could use the hand. In the days immediately before admission there was some vomiting and epistaxis.

On *admission* she was found to be very ill, and in fact she only lived six days. There were large purpuric spots on the trunk and limbs and she was deathly pale. Her left arm was held to her side, and she resented being handled. There was œdema of the ankles and of the feet. The pulse was rapid (132–156); there was a short, sharp first sound followed by a systolic bruit at the apex, and a systolic bruit at the base. Her temperature ranged between 99° and 102° F., but fell to normal on the third day in hospital. Her systolic blood pressure was 100 mm. Hg, and her diastolic 55 mm. The edge of the liver was to be felt one finger's breadth below the right costal margin, and the tip of the spleen was palpable. There were no changes in the central nervous system and the fundi were normal.

The *blood picture* was that of an aleukæmic phase in acute lymphatic leukæmia: Red blood-cells, 1,125,000 per c.mm.; hæmoglobin, 15 per cent.; colour-index, 0·43; white blood-cells, 4700 per c.mm.; differential count: 846 polymorphs per c.mm. (18 per cent.) and 3854 lymphocytes per c.mm. (82 per cent.). The lymphocytes varied much in size and shape; there were no other abnormal cells. The red cells showed poikilocytosis, anisocytosis, and polychromasia. There were 10,320 platelets per c.mm. The coagulation time was 2 minutes 40 seconds, and the bleeding time over 10 minutes.

For some years we have been interested in the bone changes occurring in the blood diseases and a radiological examination of the long bones was made as a routine, but in this particular case the pseudo-paresis of the left arm, the tenderness of the limbs, and the history of joint swellings would in any case have called for special investigation. Skiagrams of the long bones, taken by Dr. B. Shires, showed uniform periosteal changes in the femora and humeri (Figs. I. and II.). These changes resembled the appearances seen in chronic periostitis. They could not in this patient have been mistaken for syphilitic osteoperiostitis, scorbutic subperiosteal hæmorrhages, or any ordinary chronic infective condition, and it was thought most probable that they had been produced by subperiosteal leukæmic infiltration.

AUTOPSY.

The body was that of a pale child with purpuric spots on the trunk. Enlarged lymphatic glands were to be felt in the axillæ, neck, and groins. The bones felt normal to the examining finger.

Except for pallor of the brain, the cranium and intracranial structures were normal. The cervical glands were enlarged, pale, and discrete. On opening the thorax the lungs were found to be pale and œdematous, petechial hæmorrhages were seen in the pleura. The lymphatic glands at the root of the lungs were enlarged, and on close examination minute white dots were seen under their capsules. A microscopical section of one of these glands showed that its structure was intact, but under the capsule were to be seen numerous hypertrophied cortical lymphatic nodes. It was these bodies which could be seen macroscopically as white dots through the capsule. These dots were also recognisable on some of the enlarged paratracheal glands. The heart muscle was found to be soft and flabby, the right ventricle dilated, the valves normal, and the blood clot very pale. Petechial hæmorrhages were to be seen in the pericardium.

On opening the abdomen it was found that the peritoneum and intestinal tract were normal. The mesenteric glands were slightly enlarged, and one of them was caseous (tuberculous). The preaortic glands were enlarged, being two or three times their normal size. The liver was pale and showed slight venous congestion. Microscopically there was extreme fatty degeneration, mainly of the peripheries of the hepatic lobules, and a few aggregations of 20–30 lymphocytes were to be seen. The spleen, firm and slightly pale, was not enlarged. Microscopically there was a slight

increase of its trabecular tissue; the lymphocytes were increased and the erythrocytes reduced. The kidneys were pale and showed cloudy swelling of the tubules. In one place numerous dilated vessels were seen in close proximity to an aggregation of lymphocytes, but elsewhere the kidney was bloodless. The suprarenals were found to be normal.

Striking pathological changes were seen when the femora and humeri were split open longitudinally. Each of these bones presented the following general changes:—

(1) Along the greater length of the bone a layer of the cortex was split from the shaft, parallel to the periosteum. The separated bony layer, which was firmly attached to the periosteum, was rather more than 1 mm. thick. Microscopical examination of a decalcified section, stained with eosin and hæmotoxylin, showed that in places the periosteum was infiltrated with lymphocytes and separated from the cortex by new cancellous bone and osteoid tissue.

(2) At the ends of the diaphysis the marrow was pale and excessively trabeculated.

(3) In the marrow cavity were to be seen elongated leukæmic deposits, whitish in colour, and firm to the finger. Some of these were softened, and bordering the softened areas there was a zone of gelatinous marrow and evidence suggesting increased erythropoietic activity. The softening was most obvious at the lower end of the left humerus. In this situation the epiphyseal line was hardly recognisable, and there had been *absorption of the bony cortex* (Fig. I.). A microscopical section of one of these leukæmic deposits in the marrow cavity was examined and found to consist of deeply staining lymphocytes, many of which were irregular in shape, and there were small areas of hæmorrhage. A rib also was sectioned and this showed, on a smaller scale, the same curious lifting of the periosteum and laying down of new bone outside the cortex. The other changes remarked upon in the humeri and femora were not seen. The temporal, parietal, frontal, and occipital bones showed no abnormalities.

No organisms were seen in sections of a leukæmic deposit from the bone-marrow (stained by Gram-Weigert's method and by methylene-blue). Cultures taken from the lymphatic glands and the bone-marrow deposits were bacteriologically sterile, the material being incubated aerobically and anaerobically on heart digest broth and on glucose broth, and also being inoculated intravenously into a rabbit, without result.

THE BONES IN SEVERE ANÆMIAS.

That the bones will be affected in certain cases of leukæmia and severe anæmia is to be expected if we consider the anatomy and physiology of the bone-marrow. In the adult human subject the marrow of the long bones is predominantly yellow, and there is a large reserve available for blood formation which is not used under normal circumstances. The large area occupied by resting marrow is remarkable and it indicates how wide a margin has been provided by nature against possible needs. The bulk of the marrow in the adult is estimated to be about 1420 c.cm., which is 13 times the volume of the spleen and almost equal to that of the liver.[3] In the child the marrow of the long bones is much more active than in the adult, and the fact that the marrow of the femur remains red until the age of 12–14 years illustrates this point.[4] It follows that the marrow reserve in the child is relatively small. In both adult and child any extension of hæmopoietic activity can only take place physiologically at the expense of the marrow fat, because the cavity of the bones is entirely filled with tissue. When the demand made on the marrow is very great, and its response has reached a physiological maximum, any further blood requirements can only be met pathologically and in one of two ways: First, by the formation of extramedullary marrow in unusual situations. This is observed in pernicious anæmia, &c., and has been recorded also in fatal cases of the hæmolytic anæmia of acholuric jaundice.[5] Secondly, by the absorption of bony cortex and expansion of the marrow cavity. This has been seen in dogs after repeated hæmorrhage[6] and after splenectomy,[7] and has occasionally been demonstrated radiologically in blood diseases in children.

Absorption of the cortex of the bones has been reported in leukæmias,[8 9] when it may be the result either of an excessive demand for new blood formation or due to an invasion of the bone by leukæmic tissue. Greig[10] holds that in such cases of leukæmia, osteoporosis and absorption of the cortex may be followed eventually by osteo-sclerosis. Such osteosclerotic changes occurred in a case of leukæmia described by Schwarz.[11] In Albers-Schönberg's disease (osteosclerotic anæmia) the peculiar "marbling" of the bones is of great interest to the surgeon and to the radiologist, but the interest of the hæmatologist is focused on the severe aplastic anæmia sometimes resulting in these cases from thickening of the cortex and encroachment on the marrow spaces. This osteosclerosis is the underlying pathological process and the anæmia is secondary to it. On the other hand, in these leukæmias, which are accompanied by involvement of the bones, the osteosclerosis is the final stage of that involvement, and must be regarded as secondary to the leukæmic process. This is a distinction which, according to Greig, should be drawn between these two varieties of osteosclerosis associated with anæmia.

Vogt and Diamond[12] have made a radiological study of bone changes in certain children with pathologically hyperplastic bone-marrow. They point out that the changes will be less marked in the leukæmias and more marked in the congenital anæmias such, for example, as congenital hæmolytic anæmia (family acholuric jaundice), sickle cell anæmia, and Cooley's erythroblastic anæmia. These changes consist essentially of a thinning of the cortex with expansion of the shaft but localised erosion of the cancellous bone by marrow tissue also occurs. Wollstein and Kreidel[13] have dealt with the bone changes met with in the hæmolytic anæmias of childhood, and one of us (F. J. P.) has (with A. Moncrieff) recorded such changes in lymphatic leukæmia and in lymphadenoma.[1]

We have been able to find only one radiological account of periosteal changes in leukæmia (Taylor[14]). This case was reported from the Roentgenological Department, Beth Israel Hospital, New York City, and presented features very similar to those of our own patient.

Age 2 years and 10 months. Seven months previously the child went off its legs and the mother noticed that both feet and both forearms were hot, swollen, and tender. Two months later pallor was noted. When admitted the child was found to be a case of lymphatic leukæmia. The extremities could be moved but they were tender. The roentgenograms of all the long bones, including the metacarpals and metatarsals, showed a slight elevation of the periosteum with some productive changes. The autopsy confirmed the diagnosis of lymphatic leukæmia and the microscope revealed lymphatic infiltration underneath the periosteum of the tibia and replacement of bone-marrow.

DIFFERENTIAL DIAGNOSIS OF ACUTE LEUKÆMIA WITH CHANGES IN THE BONES.

There is much practical interest in recalling some of the maladies in which pains in the limbs are a feature in children's illnesses, conditions such as scurvy, syphilitic osteoperiostitis, acute leukæmia, rheumatism, and osteomyelitis, to which also may be added those cases of infantile paralysis in which neuritic pains are predominant. We have reproduced here, in illustration of these pathological states, skiagrams which show the periosteal changes that occurred (1) in our case of acute leukæmia (Figs. I

and II.), (2) in a case of congenital syphilis (Fig. III.), and (3) in a case of scurvy (Fig. IV.). In passing, we would note that scurvy has apparently become more frequent in its occurrence of recent years.

Each of the diseases which we have mentioned above may be confused with one another in diagnosis—thus scurvy may be called rheumatism, acute leukæmia thought to be rheumatism or even scurvy, and the same may occur occasionally with infantile paralysis. Osteomyelitis, as we all know too well, may be most difficult to distinguish from rheumatism, particularly when it is multiple and subacute.

No one doubts that the fully developed diseases are widely different and all recognise the dietetic errors and hæmorrhages in scurvy, the early age and stigmata of congenital syphilis, the multiple symptoms and arthritis of acute rheumatism, the extreme anæmia and altered condition of the blood in acute leukæmia, the localised tenderness, severe illness, and high fever of osteomyelitis, and the paralysis which develops later in anterior poliomyelitis.

It must be admitted, however, that at the bedside there are, in some unusual cases, remarkable resemblances between acute leukæmia, virulent rheumatism, and malignant endocarditis. In all there may be a great pallor and in all purpura. The first sound of the heart in acute leukæmia may be so short and sharp as to suggest a mitral stenosis and be followed by a systolic murmur that can be traced to the axilla. At the base there may be a systolic and even diastolic murmur audible. All show fever, all may have pains in the limbs, and all enlarged spleens. The blood picture is, it is true, very different, but in those cases of leukæmia in which there is a leucopenia skilled examination, which is not always at hand, is needed to show the breakdown in the differential count. The undoubted fact remains that, once started on the wrong track, there may be much difficulty in escaping from the diagnosis of virulent rheumatism to that of acute leukæmia, particularly should the tissue around the joints be swollen and tender as in the case we have described.

We are greatly indebted to Dr. B. Shires for taking the skiagrams which illustrate this paper.

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PRIVATE WARDS AT MAIDENHEAD.—Arrangements for private wards have now been made at Maidenhead Hospital. In return for an annual subscription varying from £1 1s. to £2 2s., according to family, the subscriber will be entitled to the use of a private ward with free maintenance and nursing; doctors' fees will be a matter of arrangement. There is no income limit and no limit of stay, but a patient must have a certificate from a member of the honorary medical staff that the case is suitable for hospital treatment. Should a private ward not be available 15s. a day up to 21 days will be paid to any other hospital or nursing home to which the patient may go.

CALCIFICATION OF THE ABDOMINAL AORTA,

WITH A REFERENCE TO ATHEROMA AND THE RADIOLOGICAL INVESTIGATION OF ARTERIES.

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RADIOLOGIST TO THE LONDON HOSPITAL.

(WITH ILLUSTRATIONS ON PLATE.)

DEPOSITS of calcium salts in arteries may render them visible to the radiologist. Peripheral vessels, especially of the leg, are often demonstrated in Paget's disease (osteitis deformans). In other subjects, too, the arteries in the limbs or the tortuous extracranial ones can also be seen when calcified. Flakes of calcium may sometimes be observed in the arch of the aorta, especially in the transverse portion where the so-called "knuckle," sharply demarcated against the translucent lung, favours their detection. Sharp negatives show narrow crescentic shadows in the outline of the aorta.

The case reported exhibits an unusual degree and extent of calcification of the abdominal aorta, and justifies some remarks upon its detection. It also led me to investigate the natural* though pathological visibility of vessels. Kohler mentions that deposits of lime may be seen in the descending thoracic aorta, and he says that calcified coronary arteries have never yet been demonstrated. I found no mention of a calcified abdominal aorta in his book, but Gibson refers to a case under his care where, under X rays, calcification of that vessel was seen to be present in a woman of 68 who complained of abdominal pains which occasionally spread down the inner side of the thighs. He suggests that this may be due to calcification of the aorta.

Calcareous deposits are not evident in radiograms of simple syphilitic aortitis, though they may occur when atheroma supervenes. Small flakes of lime may sometimes be seen in the innominate artery, but they should not be mistaken for minute tubercular deposits (Kohler). In his book Assman shows a patch of calcification (*Kalkplate*) at the aortic knuckle in a case of arterio-sclerosis. These plaques are due to a localised or patchy thickening of the intima.

Atheroma in the aorta and its bigger branches appears as nodes of different sizes; at first there are translucent or gelatinous plaques, which later become firm or calcareous, and in that state may become demonstrable radiologically. Atheroma of the aorta may be present with healthy coronary arteries. Calcification in the ascending aorta occasionally leads to narrowing or complete occlusion of the orifice of one or both coronary arteries. In the post-mortem room aortic atheroma with calcification is often seen, while calcification of the cardiac arteries is less common. The former is a common finding in subjects past middle life.

Among remarkable cases of coronary disease, Jamieson and Hauser reported the case of a boy of 18 who had agonising pain in the chest and died suddenly. At the necropsy coronary thrombosis and calcareous changes, and microscopically a proliferative endarteritis, were found. In Buerger's case the patient was a man of 21 years of age with thromboangiitis obliterans, who died following an operation

* Natural as distinct from the injection of opaque substances in vessels.

for mesenteric thrombosis. Post mortem, marked atheroma of the coronary arteries was present. Another patient, aged 24 years, is also reported by Buerger. This patient died suddenly after an amputation of the right thigh, and post-mortem atherosclerosis of the coronary arteries was found. At the point of origin of the right coronary artery (on the right posterior sinus of Valsalva) was an atheromatous plaque, which narrowed the orifice of the artery even to obstruction. Hughes and Berry reported that a female child of 7 weeks had a sudden attack of cyanosis, and rapid death ensued. Marked thickening and tortuosity of the coronary arteries, which stood out from the heart like cords, was found, and some patches of calcification were present in the pulmonary artery.

THE CLINICAL PICTURE.

In many instances where aortic atheroma is present no clinical symptoms are complained of during life. The blood pressure may be raised only slightly or not at all. Gibson quotes Huchard and Pal, who described a syndrome "angina abdominis" which they ascribed to a non-syphilitic lesion of the abdominal aorta. Gibson further mentions a case described by Louis Ramond, where very painful cramps lasting from half to two hours were present. No sign of disease of the alimentary tract was evident, neither stone in the kidney nor in the gall-bladder, but radiologically dilatation of the abdominal aorta above its bifurcation was present, and a dark band indicative of the thoracic aorta above the diaphragm. The blood pressure was not raised (150 max., 100 min.).

Coronary atheroma, on the other hand, more often causes symptoms, but so far has not been demonstrated radiologically except by Lenk, and one object of this communication is to stimulate some interest in the investigation of the coronaries, from a radiological point of view.

It is now acknowledged that most cases of angina pectoris have as their basis atheroma of the coronary vessels. "It must be remembered," says Mackenzie, "that changes similar to those that have affected the aorta may have affected the coronary arteries." When this condition is present, narrowing or even occlusion in the course of the coronaries may occur, or the narrowing may eventually determine a thrombus with resulting occlusion and cardiac infarction.

Vaquez and Bordet refer, under the diagnosis of arteritis and of atheroma of the aorta, to the increased density of the vessel when radioscopically observed. They state that deposits in and increased thickness of the aortic walls, as well as the greater volume of the liquid column, intensify the density of the aorta. They refer to a case of Brodin and Ronneaux, where a dense rounded patch was present at the origin of the ascending aorta. A necropsy proved this to be a small pocket covered with atheromatous plaques. They also mention that in some emphysematous subjects the pulmonary artery may be increased in density because it is atheromatous, whilst the aorta is free of this. In such cases the pulmonary artery is increased in density and the aorta is not.

A CASE OF CALCIFICATION OF THE ABDOMINAL AORTA.

A woman of 58 was referred to me for an abdominal examination. She complained of a weak digestion.

For three years she had pain in the back and epigastrium, and some degree of flatulence. There had been no vomiting, except 20 years before. She gave some vague symptoms of a "lump" in the epigastrium, and a previous history of bilious attacks accompanied by headaches. Recently, there had been constipation, and a loss of weight amounting to one stone in the last three months. She was of an active disposition, and looked pale. The X ray examination previous to the opaque meal showed an enlarged gall-bladder and a large shadow, perhaps a gall-stone. The gastro-intestinal tract showed no abnormality. Subsequently a cholecystogram established the diagnosis of an abnormal gall-bladder and the presence of a large gall-stone. This was confirmed at the operation.

In an attempt at diagnosis on the first examination a lateral view was secured to show the position of the probable gall-stone in relation to the anterior abdominal wall, and also that of a rounded calcareous body on the left side. It was then noticed that there was a dense straight column of calcification in front of the lumbar spine. A further study of other films showed two parallel lines over the spine, and it was then that extensive calcification of the abdominal aorta was diagnosed (Fig. I.). The systolic blood pressure was 160 mm. A faint systolic murmur was heard at the cardiac apex; there was no albumin in the urine. At the operation the aorta could not be felt, probably because of lack of pulsation. The patient made a good recovery.

Clinical symptoms of this severe atheroma were absent, and in all probability such extensive calcification of the abdominal aorta would have been totally unsuspected had it not been for the lateral examination of the abdomen. Lines of calcium of varying length in a single line in front of the lumbar spine had several times come under my observation, but this example showed the extreme degree which it could reach. It is interesting that such an amount of degeneration should not produce symptoms, but a vessel with a large lumen like the abdominal aorta may be calcified without much narrowing, or the lumen may be ample for a proper supply of blood to its territory. In a small artery or a terminal one, the calcification, if accompanied by narrowing, will more readily prejudice the blood-supply of an organ like the heart. Atheromatous changes in elderly people may cause pain in the calves after walking a short distance, and radiological investigation reveals lime deposits in the vessels (Fig. II.).

THE USE OF OPAQUE INJECTIONS.

Can X rays reveal the presence of calcification of the coronaries, or will narrowing of their vessels ever be shown radiologically? Is their detection possible by the recognition of calcified atheromatous plaques, or by the injection of opaque substances of the nature of uroselectan or abrodil? These questions lead to the consideration of lipiodol when injected in the blood-vessels, and to the position of the coronaries and the best way to observe them.

In Orrin's "Systemic Arteries" is to be found a lateral view of the dead fœtus showing all the vessels of the body injected. The radiogram was taken with the arms fully extended above the head. The right and left coronary arteries are seen. The left is placed well anteriorly and at no great distance from the posterior sternal surface. His primary object in demonstrating the vascular system by means of X ray was purely anatomical, and circumstances led him to use a fœtus.

Sicard and Forestier showed that it is possible to inject lipiodol into vessels and to follow its dissemination in the circulation by radioscopy and radiography. Brooks, in 1924, exposed the femoral artery under a local anæsthetic, having placed a tourniquet around the thigh, and injected into the artery 10 c.cm. of concentrated sodium iodide solution. Severe arterial pain followed the injection. Harvier and Lemaire

published 14 cases where the injection of 5 to 10 c.cm. of lipiodol was made slowly into the femoral artery under local anæsthesia by means of a long needle such as is used for lumbar puncture. No accident resulted, and no general reaction followed the use of 1 to 2 c.cm. of lipiodol as recommended by Sicard. Coughing may occur when the lipiodol passes through the pulmonary capillaries. Radioscopically the lipiodol can be seen in the pulmonary circulation being thrown in gushes by the right heart (Leibovici). In cases of gangrene the opaque material stagnates in the neighbourhood of the gangrenous zone. Local reaction, swelling of the limb, rise of temperature, sometimes slight cyanosis of the limb, and finally a fine purpura may follow a large injection, of 12 c.cm. or more. In normal subjects lipiodol disappears extremely rapidly from the circulation, and it is necessary to make the injection upon the radiological table, taking the radiograms at once. Usually in five minutes no more lipiodol is to be seen in the arteries of the foot in a case of femoral injection.

When obstruction of an artery is present, as in gangrene of the foot, if lipiodol be injected in large quantities the blockage may cause small arterial vessels to burst, with possible œdema and fine purpura. In local gangrene lipiodol may remain for several weeks in the arteries adjacent to the gangrenous zone. In Sicard's opinion lipiodol may show the site of an arterial obliteration; but Lion observed that an arterial spasm can arrest the lipiodol and lead to a false diagnosis of arterial occlusion.

Intravenously Sicard and Forestier gave only very small doses which were well tolerated. Injected in the superficial veins the lipiodol passes into the deep ones in a broken-up manner, and reaches the pulmonary capillaries. In arterial injection they use 1 c.cm. of lipiodol in a glass syringe, puncturing the vessel with a fine needle. The injection is made into the femoral artery in Scarpa's triangle, even without anæsthesia. This method is especially valuable for the detection of a thrombus and for showing the collateral circulation in a limb, thus helping to determine the level of amputation.

American investigators have used a concentrated solution of sodium bromide, but this is a very painful method. Sicard and Forestier, against this, point out that lipiodol is painless, but they state that vessel lipiodol has little practical value. Special pathological circumstances are needed to give a useful diagnosis. They think that after arterial injection of lipiodol radioscopic observation is more informative than is radiographic. Opaque substances in solution have been used for injecting into the carotid artery and demonstrating the cerebral circulation of an affected territory. In such cases radiographs have to be taken instantaneously at the time of the injection. Rouslacroix, quoting the work of Brocq and Mouchet on the anatomical post-mortem study of the coronary arteries by radiography, suggested the use of lipiodol as a better means of rendering the arteries opaque in the cadaver. He thought it might help to elucidate conditions in which the coronary arteries were suspected.

It is apparent that great difficulties are to be encountered in attempting to render the coronary arteries visible in the living There have been, of course, numerous injections of these vessels in the post-mortem heart to show their course (Fig III.), their narrowing, and their possible obliteration, but it may shortly be proved possible for these vessels to be shown radiologically in their entire distribution in the living patient Meanwhile we may perhaps content ourselves with attempting to show calcareous plaques in the more anterior vessel (Fig. IV.).

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Clinical and Laboratory Notes

LYMPHATIC LEUKÆMIA WITH CUTANEOUS MANIFESTATIONS.

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A MAN, aged 65, was referred to one of us (R. McK.) by Dr. B. Goldsmith, of Llandudno, in December, 1931. His chief complaint was of an eruption on the legs and arms, and of weakness. The eruption had begun nine months previously on the right leg, and some weeks later a rash had developed on the left leg. During September, 1931, he had noticed an eruption on both forearms. He stated that he had had no illnesses since childhood, and denied the possibility of having contracted venereal disease.

At first sight the lesions had a somewhat similar appearance to hypertrophic lichen planus on the right leg, and lichen ruber planus on the left leg and forearms; but the lesions had not the typical violaceous hue of this disease, and the weak state of the patient demanded a thorough examination. He was therefore admitted to hospital for investigation. The results of examination were as follows:—

Skin.—The inner side of the middle third of the right leg was affected by a diffuse papulo-nodular eruption, the nodules being of medium size, soft on palpation, and aggregated in small clusters in some areas, particularly at the periphery of the affected region. In colour the nodules were a purplish-brown and the skin between the nodules was similarly stained. The back and the sides of the leg were similarly affected, but to a lesser degree. On the

inner side of the left leg there were a few discrete papules, which were also purplish-brown in hue. There was no eruption on the thighs, body, neck, head, or upper arms, but the forearms showed a diffuse maculopapular eruption, chiefly affecting the extensor surfaces. This eruption had the same colour as that on the legs. There was at this stage no ulceration of the affected surfaces, and no petechiæ were present. Fig. 1 shows the condition of the legs at the time.

Lymphatic Glands.—Both epitrochlear glands were moderately enlarged, as were also the axillary, cervical, and inguinal glands.

Abdominal Organs.—The liver was enlarged and the lower edge was palpable 1 inch below the right costal margin. The spleen was enlarged and the splenic notch was palpable 2 inches below the left costal margin.

General Examination.—The patient rather objected to a prolonged examination, and the following facts only were noted: The pupils reacted normally to light and for accommodation. There was no buccal leukoplakia, and the tongue showed no definite abnormality. The knee- and ankle-jerks were unimpaired. The area of cardiac dullness was not increased, but there was a hæmic murmur at the apex, and the heart sounds were distant.

Laboratory Tests.—The urine contained neither sugar nor albumin. A specimen of blood was obtained and a Wassermann reaction was performed. The blood was also examined microscopically. The Wassermann reaction was found to be strongly positive (++), and the report of the microscopical examination was that the patient was definitely suffering from lymphatic leukæmia, the white cell count being approximately half a million per c.mm., and the red cells totalling 2,276,000 per c.mm. A stained film showed little change in the red cells beyond some polychromasia, in particular no nucleated red cells were seen. At this stage the white cells were reported to be mainly small lymphocytes.

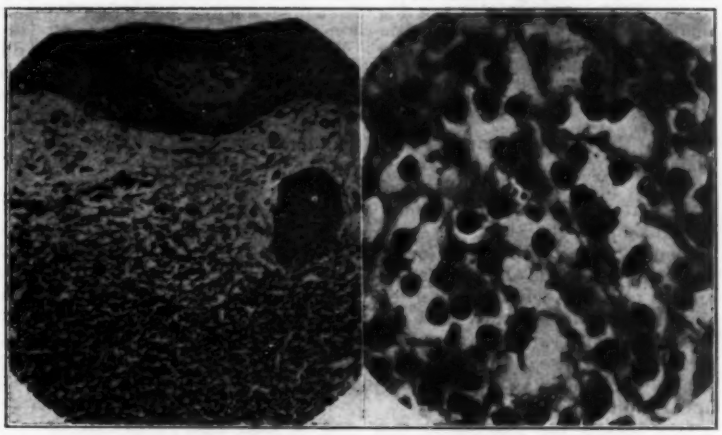
The patient was given increasing doses of Donovan's solution thrice daily, and a simple calamine lotion was applied to the skin lesions. This treatment produced slight improvement in the condition of the right leg. His condition was apyrexial throughout his stay in hospital; but, unfortunately, he insisted on leaving after he had been in the ward for only ten days, in order to be at home for Christmas; it was therefore impossible to carry out any further investigations.

FIG. 1.

Photograph showing the eruption on the legs on account of which the patient first consulted his doctor.

He was next seen by us on Feb. 28th, 1932, in consultation with Dr. Goldsmith. The latter had had a blood film examined on Jan. 26th by Dr. Knowles Boney, of Llandudno, who had reported that the total number of white blood-cells was approximately 300,000, of which 90 per cent. were lymphocytes; many of these appeared to be degenerated nuclear masses devoid of cytoplasm. Polychromasia was again in evidence, but no nucleated red cells were found. Dr. Goldsmith stated that the patient's condition had deteriorated during the two months since he had left hospital. The following evidence of the progress of the disease was noted:—

FIG. 2. FIG. 3.



Photomicrograph of section of one of the unbroken cutaneous nodules showing the lymphocytic infiltration of the cutis vera. (Hæm. and eosin. × 80.)

High power photomicrograph of section showing the lymphocytic nature of the cells and the absence of plasma cells. (Hæm. and eosin. × 600.)

Skin.—The eruption on the right leg was more extensive and ulceration had occurred in two areas of the upper part of the lesions. The rash on the left leg and on the arms was more pronounced and of wider extent; the thighs were slightly affected. There was no eruption on the body. Minute petechiæ were present on the backs of the hands. Pallor of the skin was pronounced, but there was no icteric tinge.

Abdomen.—There was evidence of slight ascites; the liver was enlarged to within ½ inch of the umbilicus. The lower edge of the spleen was palpable 3 inches below the left costal margin.

Lymphatic Glands.—General enlargement as previously noted.

No hæmorrhage had occurred from gums or bowels. There was a slight glossitis at the tip of the tongue. Despite the condition of the blood (vide infra) the patient showed no dyspnœa at rest and very little on walking, but he was very easily fatigued. He was confined to bed, but the only reason for this, so far as he admitted, was because of the ulcerated condition of his leg.

The following are the results of pathological investigation:—

Red cells	1,856,000	Polymorphs	0·8%
White cells	392,000	Lymphocytes	99·0%
Hæmoglobin (Dare)	12%	Monocytes	0·2%
Colour-index	0·32	Eosinophiles, Basophiles	0·0%
Platelets	171,000		

Average diameter of red cells, 7·64 μ. Bleeding time, 3 minutes. Red cells showed marked anisocytosis with many megalocytes, slight poikilocytosis, very little polychromasia, and marked hypochromia. Only one nucleated red cell was seen in counting 1000 white cells.

The lymphocytes showed marked variations in size, the amount of cytoplasm varying considerably in different cells. In the larger cells, azurophile granules were present in the cytoplasm, and many of the nuclei, particularly of these larger cells, showed one or more nucleoli. The degenerate cells, commented on by Dr. Knowles Boney, formed about 4 per cent. of the lymphocytes, and in these,

evidence of nucleoli could be made out. Large and small cells seemed to be present in approximately equal numbers.

Urine.—Alkaline. Heavy deposit of amorphous phosphates. A few epithelial cells and an occasional leucocyte were found. No albumin, red cells, casts, abnormal crystals, or bacteria were found.

Histological examination of a section of skin removed from one of the largest nodules on the right leg at the upper margin of the affected area (see Fig. 2) showed a diffuse infiltration with lymphocytes of the deeper layer of the cutis vera. The papillary layer and the epidermis were not affected. No plasma cells or endothelial cells were seen, and neither fibroblastic reaction nor caseation was discovered (Fig. 3).

DISCUSSION.

From the dermatological standpoint the differential diagnosis appeared to lie between one of the rarer types of lichen planus, a syphilitic manifestation, and the rare but well-recognised condition of leukæmia infiltration of the skin. In view of the concurrent evidences of syphilis and leukæmia, a histological examination of the skin was necessary. The findings appear to point definitely to a leukæmic origin of the skin lesions, for if they had been gummatous not only would ulceration have taken place earlier in the course of the disease, but, histologically, there would almost certainly have been evidences of plasma cell infiltration and caseation.

Our reason for publishing this case is that skin lesions in lymphatic leukæmia are very seldom seen; when they do occur they are usually of secondary importance, for they commonly develop after the diagnosis is established, whereas in this case the skin lesions afforded the earliest and the chief source of the patient's anxiety.

Our thanks are due to Dr. Goldsmith for referring the case to us individually, and to Dr. L. S. Ashcroft, of Liverpool, for making the preliminary examination when the patient was in hospital.

THE ÆTIOLOGY AND TREATMENT OF ANÆMIA IN PREGNANCY.*

BY MAURICE B. STRAUSS, M.D.,

AND WILLIAM B. CASTLE, M.D.

THE "physiologic" anæmia of pregnancy was investigated by studying the blood, the gastric secretions, and the dietary histories of a group of normal women throughout pregnancy. More than half of these women showed a marked decrease or absence of free hydrochloric acid in the gastric juice during pregnancy, with a return to normal following parturition. These women, and those with poor diets, had an average loss of 12 per cent. hæmoglobin during pregnancy, whereas women who showed a less marked decrease in free hydrochloric acid and who ate satisfactorily during pregnancy lost an average of only 5 per cent. hæmoglobin. Three women with permanent post-histamine gastric anacidity had an average loss of 18 per cent. hæmoglobin in spite of their satisfactory dietary intake during pregnancy. These observations indicate the importance of direct dietary deficiency and deficiency conditioned by changes in the gastric juice in the ætiology of the "physiologic" anæmia of pregnancy.

Thirty-five women who had less than 45 per cent. hæmoglobin during the latter half of pregnancy or following parturition were studied. Nineteen of these were found to have post-histamine gastric anacidity and 12 more had little or no free hydrochloric acid following alcohol test-meals. In addition to this striking incidence of disturbed gastric function, over two-thirds of these patients were found to have had diets which were definitely deficient in iron and other mineral elements and in protein.

None of the 35 patients made any significant improvement during control periods without therapy. Thirty had anæmia of the hypochromic type. Liver extract produced no improvement in these cases; but all treated with large doses of iron improved rapidly, gaining an average of 0·65 per cent. hæmoglobin per day—whether treated during or after pregnancy.

The observations on the hypochromic anæmia of pregnancy correspond to similar studies on idiopathic hypochromic anæmia and indicate that the ætiologic factors of direct dietary deficiency and deficiency conditioned by gastric anacidity are common to both. Furthermore, an analogy may be made between the blood requirements of the fœtus and the chronic blood loss associated with certain cases of idiopathic hypochromic anæmia. In addition, the therapeutic value of iron is shown to be as great in the hypochromic anæmia of pregnancy as in other hypochromic anæmia.

Five patients had anæmia of the hyperchromic type (pernicious anæmia of pregnancy). Two of these became well under therapy with iron and two under therapy with liver extract. In view of the observations previously made upon Addisonian pernicious anæmia, the effect of beefsteak and gastric juice was studied. Beefsteak alone was found to have no effect upon blood formation upon one patient with macrocytic anæmia during pregnancy and to have distinct effect after parturition. Immediately thereafter beefsteak plus normal human gastric juice was found to have a markedly positive effect. Since patients with "pernicious anæmia of pregnancy" remain well once cured, it is reasonable to believe in the light of these observations that the anæmia is due to the temporary loss of the intrinsic factor of the gastric juice during pregnancy with an ultimate return occurring sooner or later after delivery.

The observations on the hyperchromic anæmia of pregnancy indicate that in addition to an iron deficiency in most cases, there is a temporary absence from the gastric secretions of the specific intrinsic factor, the complete absence of which has been invariably observed in Addisonian pernicious anæmia in relapse.

Hence the same ætiologic mechanisms hold for the anæmias of pregnancy as for similar anæmias in non-pregnant individuals, and like therapy is equally efficacious.

* Abstract of a communication made to the American Society for Clinical Investigation on May 2nd. From the Thorndike Memorial Laboratory, Fourth Medical Services (Harvard) of the Boston City Hospital and the Department of Medicine of the Harvard Medical School, Boston.

THE ÆTIOLOGY AND TREATMENT OF SPRUE IN PORTO RICO.*

BY WILLIAM B. CASTLE, M.D.,

AND CORNELIUS P. RHOADS, M.D.

STUDY of 100 cases of sprue in Porto Rico, including cases in all stages of the disease, demonstrates a close relationship between this disease and Addisonian

* Abstract of a communication made to the Association of American Physicians on May 4th. This work was done in Porto Rico under the auspices of the Rockefeller Foundation in collaboration with Dr. George C. Payne and in coöperation with the Thorndike Memorial Laboratory of the Boston City Hospital and the Departments of Medicine and of Tropical Medicine of the Harvard Medical School.

pernicious anæmia as to ætiology and the most satisfactory methods of treatment. As has been postulated for pernicious anæmia by one of us (W. B. C.), three possible mechanisms or combinations of these may be involved in the production of the "conditioned deficiency" believed to be the immediate cause of pernicious anæmia. Free hydrochloric acid was demonstrated after an alcohol test-meal in the gastric contents of about half the cases examined; after histamine, in about 20 per cent. more. In certain cases of sprue a lack of "extrinsic factor" in the diet, or a lack of "intrinsic factor" in the gastric juice, both in early and late stages of the disease, was demonstrated. In some advanced cases an apparent difficulty in the absorption of hæmopoietic substances from the gastro-intestinal tract was found to be an additional factor conditioning the major deficiency. The deficient substance is apparently identical with the hæmopoietic substance produced by the interaction of beef muscle and normal human gastric juice or with the extracts of liver described by Cohn, Minot, and their collaborators as effective in pernicious anæmia. The sternal bone-marrows examined after biopsy before treatment showed a megaloblastic proliferation comparable to that seen in pernicious anæmia. No evidence of aplasia was obtained. No significant correlation between *Monilia psilosis* infection and sprue was observed in cultures of the stools of various types of anæmia.

In nearly all the cases of sprue prompt symptomatic relief of sore tongue and diarrhœa was obtained from the administration of the liver extract effective in pernicious anæmia, either orally or especially by parenteral injection. The latter procedure was positively life-saving in a few cases and the cost of treatment materially less. In those cases with a hyperchromic blood picture adequate dosage with liver extract alone produced reticulocyte crises and improvement of the blood values occasionally as striking as in pernicious anæmia but usually of a decidedly modified character. In many cases satisfactory progress was not made without the addition of iron ammonium citrate, especially when, after treatment with liver extract, the hyperchromic anæmia became hypochromic in character. In a small number of cases of sprue with an original hypochromic blood picture iron therapy was effective in relieving the anæmia, but not the gastro-intestinal symptoms which, however, yielded promptly to liver extract. In a few cases autolysed yeast preparations produced reticulocyte crises and improvement of the blood values.

MEDICAL SOCIETIES

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES.

AT a meeting of this society held on May 27th, Mr. DAVID LEES presiding, Mr. H. E. MELVILLE (National Provident Insurance Society) opened a discussion on the

Attitude of Life Insurance Societies to Venereal Disease.

He said that an actuary had the responsibility of deciding whether a proposal for insurance should be accepted at the ordinary rate, or at a special premium. To guide him in the decision he had the statements of the medical officer, and whatever statistics were available on the point. The actuary was always thinking in terms of averages, on which the whole principle of life assurance was based. An individual, accordingly, was but one of a group. To be eligible for ordinary rates, the applicant must be physically fit and free from disease at the time, and there must be nothing in his occupation, surroundings, family history, or personal history or mode of life to suggest anything in the nature of an extra hazard. The mode of life could be defined as the moral hazard, a factor always present in the actuary's mind when the insuree had had venereal disease, for it was a question whether health had been deteriorated. Having had such a disease, especially if he had had a venereal disease more than once, he must be regarded as an intemperate person, and so would be charged an extra premium. He asked whether a group of men who had had venereal disease would show a heavier mortality than a group similar in all respects except that they had not had venereal disease. If so, what was the difference? Also, did the extra mortality come early or late in life? Was it related to the man's age or the duration of time since he became infected? Actuaries knew but little about these factors, and statistics available did not help. His office dealt with cases of gonorrhœa and syphilis respectively according to the following general principles.

Gonorrhœa.—If the applicant had had repeated attacks of gonorrhœa, even if each attack had been cured, he was charged extra. If he had had only one attack and had been cured, and the life otherwise seemed ordinary, the ordinary rates would apply. A different attitude was taken if the gonorrhœa had left a stricture; if the stricture had not been cured the proposer would either be regarded as not insurable or he would be definitely loaded; some offices loaded the premium if the stricture had been treated.

Syphilis.—The many statistics gathered on the subject showed a heavy mortality among those who had had syphilis. Scandinavian statistics showed an incidence and a mortality lighter at the middle ages than at the older ages. It was difficult to get the facts about syphilis; often one had to rely on the proposer's own statements. In an important case it was worth spending money to get information from experts, but that was only possible when the person had been recently treated. The office was therefore compelled to lay down certain rules. These were: No syphilitic proposer should be accepted for insurance unless he were (1) thoroughly treated to the best of present knowledge; (2) several years had elapsed from the date of infection and treatment, and no symptoms had developed in the meantime; (3) the proposer's physical condition, family history, and habits were satisfactory. Even should these conditions be complied with, ordinary terms would not be granted. His office considered that if a man acquired syphilis at 40 years of age or over, he was a worse risk than if he were younger when he became infected. He asked what medical justification there was for this impression. The Royal Commission on Venereal Disease had recommended confidential certification of the causes of death; but life offices would oppose anything of that kind. Anything which would prevent disclosure of cause of death would encourage fraud.

Dr. OTTO MAY said that in a proper life assurance office the function of the actuary and that of the medical officer should be complementary to each

other. For a sound judgment it was necessary for the actuary to have a series of groups of people all suffering from one impairment; for example, one group of those who had suffered from primary chancre and had radical treatment, with no further developments; a group of patients whose treatment had only begun in the secondary stage; and a further group among whom tertiary manifestations were observed. The chief function of medical examiners should be, not to assess the risk, but to tell the actuary into which group an individual case should be placed. That, however, was an ideal which could not be followed; there was not enough material available in the shape of uncomplicated cases. In practice people who had venereal disease were often accepted at ordinary risks, because it was not known who had had syphilis; the ordinary form did not ask about venereal diseases, and a proposer would scarcely volunteer that he had had syphilis. But the medical form asked the question, and a few who had had syphilis admitted it, perhaps less than 1 per cent.; if it were true that 10 per cent. of the population had had the disease at some time, the commentary was obvious. He dissented from the idea that because a man had had venereal disease he was necessarily a libertine. Dr. May suggested that the interval after infection at which general paralysis supervened was mostly about ten years. The extra mortality from tabes he regarded as comparatively insignificant. A further question to be considered was the maximum incidence of the various forms of aortic disease and myocardial disease which were attributable to syphilis. The insurance office did not want to know what a man would die of after syphilis, but after what interval, in what numbers, and at what ages, and also what effect syphilis had on mortality in various groups. It was open to doubt whether modern treatment of syphilis was altogether an advantage, since the energetic and long-continued courses now declared to be necessary might possibly impair the vitality of the essential organs of the body. One heard of 30 to 40 injections, after the Wassermann was negative, of a substance generally regarded as a protoplasmic poison. Sir Jonathan Hutchinson had taken a favourable view of the outlook for a syphilitic subjected to the treatment formerly considered best. Sir Jonathan had declared he would like to run an insurance company entirely for syphilitics, as it would make a good profit, seeing that a syphilitic would henceforth live a very careful life. Dr. May favoured the disregard of gonorrhœa which had been cured. He had never suggested rating a man up for what was called a moral hazard, but recurrent gonorrhœa, as well as a gonorrhœal stricture, led to the loading of a policy.

Mr. ROBERT CUBIE (National Mutual Life Assurance Company of Australia) said his office took no particular account of gonorrhœa. The influence of syphilis was held to be greater in the later years of life than in the middle years. If no specialist report of the case could be procured a proposal from a syphilitic was not considered at all. If treatment had been thorough, and cure had probably ensued, importance was attached to the family history.

Dr. H. M. HANSCHELL said that the assumption that syphilologists were agreed on what constituted adequate treatment was untenable. There had not yet been a sufficient interval of time since modern treatment was instituted, nor enough following up of cases to enable the profession to be certain what happened. Though Sir Jonathan Hutchinson remained an optimist, usually the older generation of medical men were pessimistic about syphilis.

Lieut.-Colonel L. W. HARRISON suggested that a proposer who confessedly had had syphilis and had been well treated should be accepted at a lower premium than the average. The general population contained a very large number of undeclared syphilitics. He was not a pessimist, having encountered many patients who, after treatment, had remained Wassermann negative for six or more years. Wassermann seldom became positive again after such an interval. Life assurance offices, working on mass principles, often loaded a case too heavily for syphilis. He thought that life assurance offices would be better advised, and would have more proposals if they were to pay attention to the amount of treatment the proposer had received if he had had syphilis. He was not aware that serious damage to the liver had resulted from the use of arsenical preparations.

Dr. CLAUDE MILLS thought that if insurance people took into account the factors Colonel Harrison mentioned, the syphilitic, dealt with as an individual and not as a member of a group, would oftener get a fair deal. The question about syphilis should be put by the medical examiner; the proposer should not be required to enter the answer on a form. If a man had been infected with syphilis fairly young, mortality was likely to occur at about 50 years of age. In females, it was agreed, syphilis was a much milder disease than in males.

Dr. BUCKLEY SHARP said that most patients with syphilis discontinued treatment too soon and they could rarely be followed up closely enough to determine whether they were cured. For these reasons he never recommended the acceptance of a syphilitic patient at ordinary rates. Gonorrhœa was often recorded on the form returned by patients. A stricture might not declare itself for some years, but if adequate skilled treatment had been received and the urethroscope revealed nothing abnormal, he saw no reason against acceptance at ordinary rates. There was no absolute criterion of cure of syphilis; a sequel at 50 to 60 years of age might be myocarditis, with aortic regurgitation, and no treatment could restore the damaged valves to the normal. The average period after infection for the onset of G.P.I. was 13 years. These disasters were most likely in cases which had only been partially treated.

Dr. F. C. DOBLE said he would not load a proposer for syphilis if he had been properly treated and tested, nor for a history of gonorrhœa if he were found free from it. Information on venereal disease was best extracted diplomatically by the doctor, rather than asked for on the form.

The PRESIDENT said that the time was now ripe for syphilologists to give the lead to those responsible for advising actuaries of life assurance societies. It was unfortunate that at present they were being advised by physicians who were not constantly handling syphilitic cases.

A certain percentage of male prostitutes were constantly getting venereal disease, and doctors could do a good work by impressing on them the need of abstinence. The matter could not be dealt with from the mass point of view; it was unfair to load a patient who had had syphilis but was now sero-negative and cured. He thought life insurance people laid too much stress on the family. The main points to consider in life insurance were, the amount and kind of treatment the patient had had, and the stage of his disease at which it was carried out. For five years search had been made in the post-mortem room of Edinburgh Royal Infirmary for cases of

damaged liver following arsenical treatment for syphilis without finding one. He felt sure that neuro-recurrence was very much rarer than was generally supposed; he had encountered only one case of it in 12 years. That showed that modern treatment was achieving something. He felt that insurance offices were still being guided by the advice of the physicians who practised 25 or 30 years ago.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

AT a meeting of this section held on May 20th a discussion on

The Teaching of Obstetrics

was opened by Mr. EARDLEY HOLLAND, who gave a résumé of the gradual evolution which had taken place in the teaching of obstetrics during the past 70 years. He said that perhaps the most significant event that had ever happened for obstetrics was the recent report of the Departmental Committee on Maternal Mortality and Morbidity. The committee considered the revised curriculum recommended by the General Medical Council, which came into operation in 1932, as a great improvement on all previous medical curricula officially recognised, but in their opinion it still fails to allow sufficient time and occasion for the adequate education of the student in practical obstetrics. They concur with the view expressed by the Royal Society of Medicine in 1919 that the practical instruction leaves much to be desired, and in some respects merits emphatic condemnation. This report was forwarded to the General Medical Council, but the licensing bodies were unable to agree to six months' exclusive instruction, nor to the number of cases of labour that were laid down as a minimum.

Mr. Holland then discussed the difficulties, maintaining that the inadequate number of beds was the chief among these. In his opinion the pooling of beds among the various teaching hospitals, and the formation of very large units of not less than 200 beds, was the only solution of the problem.

Mr. CARNAC RIVETT said that at the Middlesex Hospital the theoretical aspect of gynæcology and obstetrics was dealt with in the lectures delivered by the honorary obstetric surgeons during the summer session, and these were made as clinical as possible. In addition to this he, as obstetric tutor, held a revision class four times a year. Antenatal clinics also were held twice a week throughout the year, and were conducted by the two assistant obstetric surgeons. Although the material for antenatal examination was adequate, he pointed out the difficulty of getting sufficient material for actual confinements, particularly abnormal confinements. In the hospital they had 10 to 14 beds, which it was hoped would be increased to 40 when the rebuilding scheme was complete. They had an understanding with the Royal Northern Hospital that their students should go into residence, and should get their district cases in the north of London. At present the students only had one month's practical midwifery, but it was hoped in the near future to increase it to six weeks. He stated that he believed in assistant midwives for teaching normal delivery, and he did not think there was any objection in teaching students and midwives together, except that the midwives took cases which otherwise would be available for students. Referring to the question of abnormal deliveries, he said that for the average student experience in this part of the work was practically absent, and he saw no way of getting over this except by concentrating the cases into three or four large units in London, each consisting of 250 beds.

Dr. NINIAN FALKINER (Rotunda, Dublin) said he felt strongly that it was not the introduction of new methods into clinical teaching, but the insistence on the residential system for students which would result in the diminution of the maternal mortality, the only real criterion of the efficiency of the teaching. He considered it advantageous to maintain systematic lectures in the university curriculum, in order that the student might know something of the groundwork before entering on his clinical experiences. He thought more stress should be placed on teaching the physiology of reproduction than had previously been done. He thought that it was of serious interest that the mortality in the districts run by the hospitals was so much below that of the general mortality throughout the country, and gave the possible explanation that while doctors are notoriously always in a hurry, students are hardly ever so pressed. He discussed the difficulty of getting sufficient abnormal cases to teach students even to use forceps, but did not at present see any solution. He agreed that the use of phantoms was of value, but did not meet the whole difficulty. He referred to the fact that obstetrics is taught under ideal conditions, but that the student was obliged to go out and practise in conditions which were far from ideal. He thought that more prizes should be offered to stimulate interest, and suggested that these should be given for the cytology of reproduction, the physiology of reproduction, the anatomy of the female pelvis, and the pathology of reproduction.

Mr. A. C. BELL (Queen Charlotte's) said he had obtained the views of recently qualified men, and that as a whole they believed that the knowledge of gynæcological conditions on leaving hospital was sufficient for ordinary practice, but in the case of obstetrics this was far from true. He thought that the theoretical teaching of both obstetrics and gynæcology was excellent, but that some time should be given to discussion on the subject of birth control, which would be one of the things most frequently asked of the doctor in practice. He thought that the system of instructing students in pelvic examination in out-patients was practically useless, and held this could be remedied by examinations in the theatre under an anæsthetic by all the clerks present. He thought no student should ever be allowed to conduct a case on the district before he had seen the procedure in hospital, but considered it very important to have a resident obstetric tutor. He did not see any way of overcoming the difficulty of providing sufficient abnormal cases for every student.

Miss GLADYS HILL (Royal Free Hospital) gave the personal experiences and opinions of a number of students now graduated in medicine, and trained since the institution of the obstetrical and gynæcological unit of the Royal Free Hospital. She sent out a questionnaire and analysed some 96 replies. One hundred per cent. agreed as to the importance of district maternity work; on the question of set lectures, a very small minority derived any benefit at all. Two-thirds of those answering the questionnaire were in favour of demonstrations with phantoms and models, and all were agreed as to the importance of labour ward teaching and antenatal clinics and tutorials.

Dr. W. J. H. M. BEATTIE thought that the continental system of having one or more very large obstetric clinics in each city to which successive batches of students should go and live for a period was better than the method adopted in this country. Dr. Beattie's post at St. Bartholomew's Hospital of resident assistant physician accoucheur embraced the post of resident obstetric tutor. Among his duties was to give tutorial classes and practical demonstrations, which had the advantage over set lectures that the student is at liberty to ask for information when he does not understand any particular point; but too much attention was paid to the theoretical and purely academical side of teaching, owing no doubt to anxiety that the student should pass his qualifying examination. This evil was brought about by the examiners in obstetrics and gynæcology asking certain questions on ætiology and other matters which are still controversial. He thought that the physiology of reproduction was sufficiently dealt with, and doubted if more detailed instruction would be of any value. He had circularised many of the senior students at St. Bartholomew's Hospital, and found that they considered there was insufficient obstetrical material, especially from the point of abnormal labour. Most students agreed that a longer period of time should be devoted to the study of obstetrics, and possibly less time for gynæcology, which at present extends over three months. He finally stated that he thought the more generalised post-graduate teaching in gynæcology and obstetrics would be an important factor in the better education of the recently qualified man.

Mr. W. G. MACKAY (Glasgow Maternity Hospital) said that much progress and improvement had taken place in the teaching of obstetrics in Glasgow of recent years, under the far-sighted direction of Prof. Munro Kerr. He agreed with a great deal that the previous speakers had said, and in discussing the difficulty of finding material for obstetrical operations, he maintained that the great thing was to devote much time to the simple operations which every doctor should be capable of performing, but not to worry at all about the more difficult operations which require the services of a specialist. He contended that one of the mistakes at present being made was that the final examinations were not sufficiently clinical in character.

Mr. A. J. WRIGLEY (St. Thomas's Hospital) based his paper on the results of a questionnaire from over 20 friends in practice, and criticised severely the present methods of teaching, especially the fact that the student was taught to treat obstetrical cases as if all his work was going to be in an institution or a nursing home. He thought that an undue proportion of the time of the student was spent in the surgical wards, whereas in practice the young qualified doctor would be concerned much more with midwifery.

Mr. J. B. BLAIKLEY (Guy's Hospital) said that, whereas lectures are necessary in teaching, the practical work in the labour room and wards is of prime importance; lectures should be kept to the minimum necessary to form a groundwork of understanding on which the student may build. It is important to live at least three months sufficiently close to the hospital to see the abnormal midwifery dealt with during that period. A student cannot be made into a complete obstetrician, and be allowed to practise with forceps and undertake such obstetric manœuvres as internal version; it is only after qualification that it is really possible for this to be done, when a man is sufficiently in touch with his patients to learn for himself. He thought that with the great amount of obstetrics practised in the municipal hospitals of London, it might be possible, by suitable arrangements, for many more men to obtain experience in obstetrics subsequent to qualification than at present. Examinations should be kept as practical as possible for that reason. At Guy's they were, he said, unfortunate in that the men take "conjoint" pathology in the middle of their obstetric appointment, and this interferes with the attention they devote to midwifery. Mr. Eardley Holland had referred to "an absence of any resident post between house surgeon and the staff"; at Guy's the registrar is resident or lives within a few minutes—also the assistant surgeon. Mr. Blaikley was opposed to the teaching of medical students by the ward sister. An obstetric resident (house surgeon) was, he held, quite competent to teach normal labour if well taught himself; this was the custom at Guy's, where a member of the staff or the registrar was always present for any obstetric interference, and took the opportunity to teach on the case at the time. Mr. Blaikley concluded as follows: "I would differ from those who find 20 or 24 beds too few for teaching purposes; when a fair percentage of emergency cases are admitted, they seem to me sufficient. It is no more possible to learn obstetrics than a handicraft except by apprenticeship, which implies learning by personal experience. Previous to qualification, no more than a sound groundwork for future building can be grasped by a student."

Mr. R. A. BREWS (London Hospital) explained in detail the curriculum. He stated that he thought the frequent change of students made it very difficult to prevent or detect a tendency to slacking in certain individuals. He found that a great many students were reading medicine and surgery when they were supposed to be learning midwifery.

Mr. J. C. MOIR (University College Hospital) said that he believed in the phantom as an aid to teaching, and thought that the systematic lectures would be improved if they were given to students who were at the same stage in their curriculum. It was impossible to give a satisfactory lecture to students, some of whom knew nothing of the subject, and others who were almost ready to qualify.

Miss K. I. PARKES (King's College Hospital) advised more care over the teaching of venereal disease in gynæcology. She rather advocated two courses of obstetrical teaching, one for those who really were going to practise it, and a modified course for those who were merely qualifying in taking up other subjects, such as dentistry.

Mr. C. D. READ (Westminster Hospital) had collected the ideas from a representative body of senior students and newly qualified practitioners, and came to the conclusion that insufficient detail was given on the question of antisepsis under adverse surroundings, such as attended a confinement in the slums. Forceps application is taught almost entirely on the dummy, and he thought more practice might be obtained in actual hospital deliveries. The question of anæsthesia during labour, so necessary in private practice, is only meagrely dealt with. Over 90 per cent. of the cases delivered in the hospital are book cases, and therefore the delivery is normal. He thought that more prominence should be given to the normality of labour and its physiological principles, and more stress should be placed on the danger of unnecessary interference in any way.

REVIEWS AND NOTICES OF BOOKS

Vital Records in the Tropics.

By P. GRANVILLE EDGE, Division of Epidemiology and Vital Statistics, London School of Hygiene and Tropical Medicine. London: George Routledge and Sons, Ltd. 1932. Pp. 167. 7*s.* 6*d.*

Major Edge, in collaboration with Prof. Major Greenwood, was responsible for many of the very valuable handbooks on the vital statistical systems of European countries published by the League of Nations. His detailed knowledge of these registration systems, in conjunction with his experience of tropical conditions, therefore, makes him an eminently suitable guide to those who are concerned with the selection of systems suitable to tropical dependencies, where the collection of accurate statistics is a task which has hardly been seriously undertaken. Three chapters of the book are devoted to census taking, the details usually required, e.g., sex and approximate age, and the possible methods of securing them, and four chapters to systems of registration of births, deaths, and diseases. Major Edge sets out clearly the ideal which officials should have before them, adding that they must not be discouraged if only two or three facts are actually recorded in the early stages of a scheme. That reliable vital statistics will never eventually be secured he refuses to believe. Obviously, as he points out, no hard-and-fast scheme can be laid down; much of it must depend upon local conditions, which only the worker on the spot can assess. The value of these chapters lies in the clear outline they put before the local official of the data he must aim at, and in the author's enthusiasm for accurate statistics, some of which will, doubtless, be imparted to the reader. The collection of records which are immediately labelled unreliable, as is so often the case at the present time, is mere waste of time, energy, and money; an inquiry even on the smallest scale with accurate results would be more satisfactory and infinitely more so if it were likely to be the precursor of more comprehensive statistics.

The latter half of the book is devoted to the principles of the tabulation of data and their graphical representation, and to the computation of simple rates. It contains only matter with which every compiler of an official health report should be familiar. It might even be considered too elementary if it were not for the gross elementary errors which actual published reports not infrequently contain—e.g., the addition and averaging of rates based upon populations of widely varying size. A few hours' study of it will enable the medical officer to avoid not only such errors, but the drawing of erroneous conclusions from crude birth- and death-rates.

Thrombose.

Ihre Grundlagen und ihre Bedeutung. By Prof. Dr. A. DIETRICH, Director of Pathological Institute, University of Tübingen. Berlin: Julius Springer. 1932. Pp. 102. R.M.8.80.

THIS, the fourth volume of a special pathological and clinical series emanating from Central Europe, provides an authoritative account of the pathology of thrombosis in the classical German style. His extensive experience of thrombosis as a complication of war wounds, as well as his own experimental observations, have led Prof. Dietrich to ascribe to infection the chief rôle in this process, although he readily admits the importance of other factors such as circulatory disturbances, injury to the vessel walls, and alterations in the electrical charge on the blood-platelets. The latter factors are, however, in his opinion, of subsidiary importance. The mechanism of the infective process is explained as an interaction between the vessel wall, especially the endothelium, and the fluid blood. This interaction is brought about by a sensitisation of the animal to foreign substances, whether these be bacteria or proteins. Protocols, illustrated clearly by a number of microphotographs, are given of some of the experiments upon which this theory is based. These represent an important contribution to the study of thrombosis and merit close attention. The theory offers an explanation of the occurrence of thrombosis at sites remote from the infective focus. Yet the fact that there are sites of predilection for thrombosis, for example in the upper part of the femoral vein, indicates that a static factor is also involved in the process. As Aschoff has said, the process is too complicated to justify its reference to any single factor or cause. It is a pity that the bibliography is incomplete; in all other respects the book will be found most useful by students of the subject.

Nutritional Physiology.

Seventh edition. By PERCY GOLDTHWAIT STILES, Assistant Professor of Physiology in Harvard University. London: W. B. Saunders Co., Ltd. 1931. Pp. 313. 10*s.* 6*d.*

IN this small manual Prof. Stiles explains in simple terms the mechanism of digestion and of the metabolism of foodstuffs. The keynote of the exposition is the energy exchange of the human body, and the modern conception of the immense importance of minute qualitative changes in a diet is not stressed even in this latest edition. Chapters are included which have no immediate bearing on nutritional problems, such as those describing the circulation, the nervous system, and the glands of internal secretion. The reader is warned in the preface that the book should be read in conjunction with manuals on such subjects as food chemistry and dietetics, and it must be regarded as an elementary outline of certain aspects of physiology rather than a study of nutrition.

The Foundations of Medical History.

By Sir D'ARCY POWER. London: Baillière, Tindall and Cox. Pp. 182. 16*s.*

THE Institute of the History of Medicine attached to the Johns Hopkins University invited Sir D'Arcy Power recently to deliver a series of lectures on medical history, and this little volume is the interesting and amusing result. Starting loyally with the history of his own, St. Bartholomew's Hospital, Sir D'Arcy abruptly turns to dietetics and gives a very lively description of dinner-table habits in Egypt, Greece, and Rome, and especially in mediæval England. He believes the prevalent moderation, to be seen in public gatherings as well as at the private board, must be having a real influence on longevity. There are three chapters respectively on biography, iconography, and bibliography in which the author displays an intimate knowledge of great men's lives, their appearance, and the manner in which

history has treated them. He closes with a little notice of "Aristotle's Masterpiece," that queer book which, under various titles, used to be on display in the shop windows of the vendors of "rubber goods." One learns with some surprise that its contents, though having an appeal to the prurient, constitute an entertaining summary of mediæval superstitions, and an extraordinary compilation of sixteenth and seventeenth century knowledge. The number of editions is remarkable, and examples of some of them are rare. Specimens of nine editions are in the possession of Prof. E. B. Krumbhaar, professor of pathology in the University of Pennsylvania.

Italian Medicine.

By ARTURO CASTIGLIONI, M.D. New York: Paul B. Hoeber Inc. 1932. Pp. 134. $1.50.

THIS small history of Italian medicine by Prof. Arturo Castiglioni, professor of medical history in the University of Padua, has been translated by Prof. E. B. Krumbhaar, the editor of the useful series published under the title of Clio Medica, who appears in the character of a bibliophile in the work reviewed above. The general claim of the author is that Italy has probably contributed more to the science of medicine in the past 1500 years than any other country in the world. With all allowance for patriotism this seems to be rather an exaggeration. The early labours of Italian anatomists form the main justification of the claim. It is true that the work of Italian surgeons, physicians, and researchers from the latter part of the nineteenth century up to to-day has often been new and of the highest value, but the field of medical science in Italy cannot fairly be described as having had the range attributed to it, and the fact that in a volume of 110 pages we do not reach the nineteenth century until the seventy-fourth page is significant. But Prof. Castiglioni has written a very readable little book in which the essential characteristics of Italian medicine are clearly set out.

Acute Otitis Media.

By W. MAYHEW MOLLISON, M.C.L., F.R.C.S., Surgeon in Charge, Ear and Throat Department, Guy's Hospital. Pocket Monographs Series. London: John Bale Sons and Danielsson. 1932. Pp. 71. 2*s.* 6*d.*

THE issue of this little pocket monograph is fully justified by the necessity of focusing attention on the dangers of acute otitis media, and on the need for perseverance in its treatment, since the prevention of a vast amount of deafness lies in the hands of the general practitioner. Mr. Mollison gives a concise but clear and well-balanced description of acute otitis, under the headings of subacute, or non-suppurative, and suppurative. Mastoiditis is included, as it is essentially a part of acute otitis, the successful treatment of which often involves opening the mastoid cells and antrum. A useful chapter is devoted to varieties of the disease: here, acute otitis as it occurs in infants, the septicæmic form of the disease, the variety due to the pneumococcus mucosus, and that occurring in some epidemics of influenza and associated with hæmorrhagic blebs on the drum, and external meatus are separately discussed. Mr. Mollison insists on the necessity of opening the mastoid in cases where suppuration has persisted for more than five or six weeks, even in the absence of all other symptoms. He advocates the use of drops of glycerinum acidi carbolici without specifying that they should be diluted, for the pharmacopœial drops are of the strength of 1 in 5, whereas the drops usually prescribed are not stronger than 1 in 20. No advice on local treatment of acute suppuration, after discharge has commenced, is offered; and the moot question of the use of dry dressings, drops, or lotions, is therefore not discussed. Interesting illustrative cases are given throughout. The index is quite inadequate, even for so small a book; for it contains but 35 names, and does not mention thrombosis or cerebral abscess.

Real Human Needs.

By R. MACNAIR, M.B., Ch.B. London: Williams and Norgate, Ltd. 1932. Pp. 250. 10*s.* 6*d.*

Dr. Macnair reinforces his straightforward thinking by copious quotations from some recognised authorities, and from some who cannot be regarded as such. He has produced a readable book upon religion, sex, and money in the light of modern thought. The criticism of religion amounts to finding the approaches of religion to vital problems unsatisfactory, whether they are regarded as a revelation based on history or as a code of morals. The author, citing many authorities, brings into juxtaposition various things that have happened or have been written with the idea of showing that the activities of true religion should concentrate upon the solution of the problems of to-day. The section entitled sex is divided into chapters dealing with the meaning of prudery and the functions and demands of sex; and again, while there is nothing new in the teaching, well-known views, truisms, and popular speculations are brought cleverly together, to end with a quotation stating "that the sexual act is not alone for 'the propagation of children.'" In the third section, which deals with money, the writer furnishes a summary of the existing economic system which appears to be a fair one, but the demand for the humanisation of economics requires more justification than has been put forward.

The author of this book has made full use of a wide range of reading. If the reading has left him uncritical as to the value of what the authors quoted have said, and as to the guarantee of authority that is afforded by their names, the attitude is not without its advantages. He has produced a suggestive and readable volume.

Sanitary Law in Question and Answer.

Third edition. By CHARLES PORTER, M.D., B.Sc., M.R.C.P. Edin., and JAMES FENTON, M.D., D.P.H. London: H. K. Lewis and Co. 1932. Pp. 220. 7*s.* 6*d.*

COMPILED by the medical officers of health for the boroughs of St. Marylebone and Kensington, this manual of sanitary law for the use of students of public health now appears in its third edition. The information appears to be remarkably complete and is contained in a small compass. The necessary use of abbreviations, which sometimes gives an algebraic appearance to the text of such summaries, is not overdone; the reader soon learns to know what kind of a L.A. is a C.C. or C.B.C., and what officers are S.I. or H.V. The presentation of facts in the form of question and answer is probably as good a method as any other when, as here, an adequate index is provided.

No student who masters this book need fear the examiner.

THE LANCET.

LONDON: SATURDAY, JUNE 4, 1932.

THE TEACHING OF OBSTETRICS.

THE Section of Obstetrics and Gynæcology of the Royal Society of Medicine held its annual "juniors' evening" on May 20th, when registrars and tutors from English, Scottish, and Irish schools gathered to discuss the subject selected for debate—on this occasion the teaching of obstetrics. To say that the discussion, which is reported on another page, was both interesting and instructive is an understatement; each of the younger members of the section stated his case with clarity and conciseness. So many wished to take part that the time-allowance had to be greatly restricted, but all managed to have their say with the minimum of bell-ringing. The views and ideals of those still in their apprenticeship as tutors have valuable lessons for those who have been teaching for many years; recently qualified men not only come fresh to the work but are in close contact with the student and are able to gather from him just where the shoe pinches. Admittedly the student still in hospital has somewhat obstructed vision; he cannot always see the practice of medicine for the examination that looms so large in the foreground of his prospect. But young obstetricians starting private practice have had to face the problem of adapting their institutional experience to the different conditions outside the hospital walls, and those who took part in the discussion were evidently imbued with a keen desire to give their pupils a better equipment for family practice. On the whole, the members of hospital staffs were treated tenderly by those preparing to step into their shoes, save for an occasional plaint that the visiting staff appeared too rarely in the labour room and left too much of the practical instruction to be given by inexperienced house officers. Some of the speakers had sent questionnaires to former students in order to determine which elements in the instruction customary at their school seemed, in the light of subsequent experience, to be useful, and which defective or superfluous. Systematic lectures, as contrasted with the more individual instruction of the tutorial or catechetical class were not favoured by those answering the questionnaires, and the speakers for the most part agreed with this view. It must not be forgotten however that tutorial classes may degenerate into mere spoon-feeding for examinations, and the fact that such instruction is greatly to the liking of the student would not necessarily be evidence in its favour were its value not confirmed by the response of the practitioners.

The shortage of clinical material, the relative infrequency of serious complications, and the haphazard occurrence of labour at all hours of the day and night, raise special difficulties in providing satisfactory training in the treatment of complicated labour that do not affect the teaching of gynæcology, or of the routine work of the antenatal clinic. Hence the discussion largely revolved round the question of the extent and type of the obstetric training to be given to the student who proposes to become a general practitioner. It was postulated that he could not be made into a skilled obstetrician capable of dealing with complicated midwifery. The most that time and opportunity permitted was that he should be turned out imbued with the principles of preventive medicine as exemplified in antenatal supervision; efficient in the management of normal labour and such emergencies as might arise unexpectedly in it; and familiar with the methods of applying the principles of surgical cleanliness in adverse surroundings and with the limitations of operative interference in domiciliary practice. Since instrumental deliveries are required in only a small proportion of hospital cases, which are largely "booked" cases, the occasions on which a student might be allowed an opportunity of applying the forceps under supervision are infrequent. Dr. NINIAN FALKINER called attention to the fact that the statistics from districts where the deliveries were carried out by students were more favourable than the general maternal mortality returns, and offered the explanation that while doctors are notoriously always in a hurry, the student is hardly ever so. He added that at the Rotunda Hospital the number of forceps-deliveries was far too small to permit every student to perform even one. The general acceptance of this position led up to various expressions of opinion on the value of teaching obstetric procedures on the phantom, to which were added complaints of the difficulty of obtaining stillborn fœtuses for this purpose owing to recent Government regulations. One speaker went so far as to urge that the student should not be taught any but minor procedures and those for unexpected emergencies, and that the major operations should not be made part of the ordinary training of the student. The necessity of at least two months' residence was strongly emphasised, whereas the actual number of cases to be personally delivered was little discussed and seems to have receded into the background. Certainly it does not now seem to be the burning question that it once was.

Much careful thought had obviously been given by these junior teachers to such practical points as more detailed instruction in the nursing of the lying-in mother and the management of her infant. "How many students have watched a baby being breast-fed?" asked one, and then went on to argue that for part of his period of clerkship the student should be turned into a nurse. The maternity units in the London teaching hospitals were criticised as being too small, and it was hinted that more might be done by collecting the material into large hospitals and segregating

the midwifery teaching there, but little was said of the very grave objections to the separation of obstetrical from gynæcological instruction which such a move would entail. There was general agreement that in institutions of sufficient size there should be a resident director whose services would always be available when those of an honorary visiting staff are not, but the further condition was laid down by one speaker that such whole-time resident director must also have had some years' experience of private practice, as in the case of the Master of the Rotunda, if he is to be a successful teacher for the future family practitioner.

The most satisfactory feature of the discussion was that the tutors and registrars who spoke showed no ambition to teach students the technique of the grand operations, but were anxious only to ensure that they mastered such every-day work as the conduct of normal labour in the home, and the nursing of mothers and infants. If we can assume that their outlook reflects that of their colleagues throughout the country, we can have confidence in the passing of the era of disruptive mechanical interference as a substitute for the leisurely process of nature.

SILICOSIS.

THE old idea that inhaled dusts are injurious to the lungs in proportion to their physical hardness has now for some while been abandoned in favour of the view that they do damage by virtue of their content in silica, which is a tissue poison. Epidemiological evidence and animal experiment agree in coming to this conclusion, and it seems likely now that dusts which do not contain silica are practically innocuous unless the lymphatic apparatus of the lungs has been previously damaged by that substance. Under ordinary conditions of industrial and occupational exposure, the development of pulmonary fibrosis and of the corresponding symptoms is very slow. Relatively acute silicosis has been observed when the solubility of the silica is increased by the simultaneous inhalation of alkaline soaps in the manufacture of abrasive cleansers, but the examples of this recorded by Dr. G. MACDONALD [1] and Dr. E. M. CHAPMAN [2] were exposed for three or four years before anything abnormal was noticed; in the ordinary cases the latent period is 10 or 20 years. Once symptoms have appeared, nothing substantial can be done in the way of cure; it is therefore of the greatest importance that dangerous dusts should be known as soon as possible, the more so because the ingenuity of modern industry is liable at any time to introduce a new dust of which there is no previous experience. A good deal may be inferred from chemical analysis. But this is not infallible, for carborundum (silicon carbide) is in experience not found to be harmful. Prof. E. H. KETTLE has therefore done a very useful service in devising [3] a quick and simple animal test by which poisonous dusts can be identified. The dust in suspension is injected subcutaneously into a mouse which thereafter receives an emulsion of tubercle bacilli into the tail vein, and the local lesion is subsequently examined histologically. The substances he tested fell sharply into two groups: (*a*) active dusts which cause a lesion with local necrosis and a pronounced cellular reaction in which the tubercle bacilli accumulate and multiply; and (*b*) inert dusts which bring about little or no tissue reaction and which do not favour the growth of the bacilli. The inactive dusts include carbon, coal, aluminium oxide, oxide of iron, marble, and carborundum; the active dusts are in all cases siliceous and contain either amorphous or crystalline silica or silicates (quartz, shale dust, kaolin, and asbestos). Crystalline silica coated with iron oxide proved to be inert. This classification corresponds precisely with experience, except for kaolin, which in actual practice has not been shown to be harmful; Prof. KETTLE thinks, nevertheless, that in view of its composition (aluminium silicate) and the results of his experiments it should be regarded with something more than suspicion. Subcutaneous experimental lesions must, however, be supplemented by pulmonary ones if the actual mechanism of the onset and progress of silicosis as it occurs in humans is to be explored. Dissatisfied with the cumbersome expedient of dusting chambers, he attempted some years ago to introduce dust into the lungs of rabbits and guinea-pigs by means of single or repeated intratracheal injections. These experiments had to be discontinued, but have recently been resumed in collaboration with Dr. R. HILTON. The results recorded elsewhere in this issue are promising, since the lesions produced with a minimal amount of trouble, expense, and wastage, are typical of the well-recognised early silicotic nodules.

These are clearly important additions to the available means of attacking an insidious and distressing disease, the wide prevalence of which has been appreciated only when it has been looked for; we are probably still a good deal short in our estimate of the harm done by inhaled silica. Almost everyone must breathe in a certain amount, and it still remains to define the quantity which is injurious.

[1] THE LANCET, 1930, ii., 846.
[2] Jour. Amer. Med. Assoc., 1932, xcviii., 1439.
[3] Jour. Path. and Bact., 1932, xxxv., 395.

THE INCREASE IN CANCER OF THE LUNG.

FROM centres in nearly all the populous districts in the northern hemisphere we now have reports of a progressive increase in the incidence of cancer of the lung. To the April issue of the *Wiener Archiv für innere Medizin* Dr. DINKO SUČIĆ contributes a paper on its occurrence in Zagreb in Yugoslavia. His material comprised in all 51 cases, 30 of which were investigated in the pathological institute of Zagreb University during the last ten years. In that institute lung cancers have increased from an average of less than 6 per cent. of all cancers in 1923–25 to more than 18 per cent. in 1929. Such an increase is no unusual

finding, but this record is important in view of the fact that Yugoslavia is an agricultural State with (as SUČIĆ points out) 80 per cent. of its population engaged in farming and the like. This goes to show that the increase in pulmonary tumours is not confined to the populations of the air-polluted industrial centres of the world.

The fact of its increasing incidence makes cancer of the lung particularly interesting to pathologists at the present time, for one may reasonably assume that as the disease is on the increase so must the factors which are responsible for it be on the increase, and hence be the more readily identifiable. On this assumption a number of extraneous agents, associated with the modern increase of industrialism, have been cited as possible causes. These include road dusts, especially from tarred roads, exhaust gases from motor-cars, and factory smoke—all acting through the medium of air pollution. Yet the now well-established fact that these cancers are on the increase in agricultural lands as well as in industrial towns makes it difficult to associate them directly with industrialism, especially as the industries in the various countries concerned are so diverse. SUČIĆ is driven to the conclusion that diverse factors must be concerned indirectly in the carcinogenesis, all of them acting as irritants to the bronchial mucous membrane or alveolar epithelium so as to predispose to cancer development. It is difficult to believe, however, that even a variety of factors could operate with such uniform effect in such diverse places, both urban and rural, as has been the case with the increase in cancer of the lung. One can believe that the atmosphere of large cities may have deteriorated in the last few decades, but not that the atmosphere of the countrysides can have altered correspondingly, and the simple fact that the cancer increase is so general and uniform seems largely to absolve industrial air pollution from blame. A factor which is of much more uniform distribution than industrialism and which merits careful consideration is tobacco-smoking. Already several authorities have suggested this—and especially cigarette-smoking—as a likely cause of lung cancer, and the notion is certainly gaining ground; yet there remains an evident reluctance on the part of many investigators to associate themselves with it. HOFFMAN [1] has discussed the question fairly fully, and amongst other notable facts he has pointed out that the consumption of light cigarettes has increased from 53,000 million to 108,000 million between the years 1918 and 1928. There is no doubt that men still remain greater tobacco-consumers than women, and the fact that practically all observers find cancer of the lung to be pre-eminently a disease of men, supports the suggestion of a direct relationship between it and smoking. SUČIĆ noted that 25 of his 30 cases were in men, and many other observers have found the proportion in favour of men to be even greater than this. If air pollution of any kind is to be seriously considered, therefore, this particular form of it must not escape attention for, no matter whether he be in the fields of Yugoslavia, on the mountains of Innsbruck, or in the streets of Manchester, the cigarette-smoker who inhales habitually subjects himself to the most concentrated form of air pollution possible to endure.

Unfortunately, information about the personal habits of past cases is difficult to obtain, so that the data which might yield direct evidence on this point are wanting, and the answer must await the collection of further clinical observations. Several workers have of late tried to produce experimental proof that tobacco is carcinogenic—using such methods as subjecting animals to an atmosphere laden with cigarette smoke, or applying to their skins tar obtained from tobacco combustion. A feature of many of these experiments seems to have been the development of cancer in not more than one animal out of large numbers used in each instance. Such was the case with two independent workers in Germany [2] and the Argentine [3] and also with a group of workers in Birmingham [4] whose results have lately appeared. These negative results are, of course, from the nature of things biological, just such as are to be expected in early attempts at a new line of experimental cancer production, and it would be wrong to conclude from them that tobacco is unimportant as a factor in the causation of cancer. However difficult it may be to prove the case against cigarette-smoking, it has not yet been cleared from suspicion.

[1] Hoffman, F. L.: Cancer, Philadelphia, 1931, p. 50.

[2] Mertens, V. E.: Zeit. f. Krebsforsch., 1930, xxxii., 82.
[3] Roffo, A. H.: Ibid., 1931, xxxiii., 321.
[4] Lamb, F. W. M., and Sanders, E.: Jour. of Hyg., April, 1932, p. 298.

MEMORIAL TO DAME MARY SCHARLIEB.—A ward was dedicated to the memory of Dame Mary Scharlieb at the Royal Free Hospital on Tuesday last. The ceremony took place in the Mary Scharlieb obstetrics and gynæcology unit of the hospital. Miss Elizabeth Bolton, dean of the London School of Medicine for Women, who presided, referred to the work done by Dame Mary for medical women, for the hospital, and for the women of the Empire. Lady Barrett recalled that she was "a very great lady," and that her appointment to the Royal Free was due not to her being a woman but to her abilities as a surgeon. After Dr. Gladys Hill had expressed the admiration of the younger generation of medical women, the Bishop of London dedicated the ward and Lord Riddell, president of the hospital, unveiled the memorial tablet, whose inscription is as follows:—

This ward commemorates the life and work of Dame Mary Scharlieb, D.B.E., M.S., M.D., D.C.L., J.P., 1845–1930, as gynæcologist to the Royal Free Hospital. She was the first woman to serve on the staff of any general hospital.

Dame Louise McIlroy offered the thanks of the hospital to those who have provided the memorial.

EXTENSION OF THE DREADNOUGHT HOSPITAL.—At the 111th annual court of the Seamen's Hospital Society, to be held at Greenwich at 3 P.M. on Wednesday, June 8th, the Duke of York, the president, will open the new surgical wing of the Dreadnought Hospital and the out-patient department. Until 1870 the hospital was housed in the old *Dreadnought* man-o'-war, which was moored off Greenwich, and had done duty from 1821. The present building and the new wing, named after the old ship, form one of the seven establishments of the society, which now cares for over 33,000 sick and injured seamen every year. It is still maintained by voluntary contributions.

ANNOTATIONS

CHLOROFORM AND THE HEART.

CHLOROFORM is a cardiac poison, and in experiments on animals produces certain disturbances of the heart rhythm which appear in a definite order. First there are isolated premature contractions of the ventricle, then multiple beats of the same kind, and still later paroxysmal ventricular tachycardia. Finally, the injury to the muscle culminates in ventricular fibrillation—a fatal condition, since when the muscle contracts in this particular way it can do no useful work. About 20 years ago A. Goodman Levy did valuable work in showing that in cats under light chloroform anæsthesia slight stimuli of various kinds, such as a small injection of adrenaline, or the stimulation of a sensory nerve, or even lifting the animal, were sufficient to cause ventricular fibrillation. In man sudden death during the induction of anæsthesia with chloroform sometimes occurs, and there is strong evidence that this is due to ventricular fibrillation. Although an electrocardiogram showing the heart mechanism in a fatal case of this kind has never been obtained, Dr. I. G. W. Hill, in our last issue, reported some interesting observations on the electrocardiogram taken in the induction stage. Among 16 cases some abnormality was noted in all but three. Bradycardia, and the disappearance of the P waves (which is probably to be interpreted as nodal rhythm), was noted in three instances, but ventricular premature beats, either single or multiple, were the commonest irregularity. Deeper anæsthesia led, nearly always, to their disappearance. That there are risks attending the use of chloroform has also recently been pointed out by Dr. R. W. Hornabrook [1] who heroically submitted himself to anæsthesia under several different conditions. In one experiment the anæsthetic was given when the subject was in a fatigued condition. The pulse became slow and the tracing showed auriculo-ventricular nodal rhythm; at the same time his condition gave rise to some anxiety. He believes that certain precautions will render undesirable effects on the cardiac rhythm much less likely; thus it is suggested that these may be avoided if chloroform is not given to patients who are fatigued, if it is preceded by an injection of morphia and atropine, and if it is administered in the sitting posture or with the head and shoulders raised, when struggling is much less probable. With or without precautions, however, it would appear from these investigations that the patient under light chloroform anæsthesia is often in a precarious condition.

TREATMENT OF CARCINOMA OF TONSIL.

IN a recent paper, Dr. James Duffy [2] reviews the experience of the New York Memorial Hospital in the treatment of 122 cases of carcinoma of the tonsil. He believes that true sarcoma is very rare in this locality and that the majority of cases so described, with early glandular metastases, should, in reality, be classified as lympho-epithelioma. His cases are divided into Grades I., II., and III., and transitional: Grade I. is a radio-resistant, highly squamous type; Grade II., intermediate; and Grade III. has lost its squamous characteristics, and is radio-sensitive; this latter grade, as he admits, might be combined in classification with the transitional type. He considers the results of surgical extirpation so bad that tonsillar carcinoma in any stage must be classed as surgically inoperable, and cannot therefore be divided into operable and inoperable cases; he classifies his cases therefore into the three groups of those with no palpable metastases, those with surgically operable, and those with inoperable cervical metastases. The treatment given is usually a combination of external and interstitial radiation. Both sides of the neck are subjected to a high-voltage X ray beam which includes the primary lesion and the lymph drainage areas, and immediately afterwards a radium pack is directed over the primary growth and the adjacent cervical region. These radiations are given in full erythema dosage and deliver 150 to 180 per cent. of a skin erythema dose to the tonsillar growth. Radon in gold tubes is then implanted into the tumour, in quantity depending on its size, on its histological gradation, and on the clinical response to the external radiation. If there are no cervical metastases on admission, the patient is carefully observed at frequent intervals; if operable metastases develop, or are present on admission, a full and complete dissection is performed, including both anterior and posterior triangles with resection of the sternomastoid muscle and the jugular vein. To be classified as operable, the metastases must not have infiltrated the capsule; they must, except in rare instances, be limited to the same side of the neck as the primary lesion, and the histological grade must be in the more fully differentiated class. If the primary growth is of a very radio-sensitive type, extirpation is not undertaken, but radon in full dosage is implanted in gold tubes after surgical exposure of the node. In inoperable cases the radon is buried through the skin without incision. For discussion of the results of treatment, the cases are divided into those treated from 1921 to 1924, and those from 1925 to 1928 inclusive. As the data were collected in 1929, only patients in the first class can be included in the five-year group; of these there were 49 in all, of which 10, or 20·4 per cent., remain clinically free of disease from five to nine years after the beginning of treatment. Although it is too soon to use the second group for comparison, the figures for the development of cervical metastases show a considerable improvement; the external radiation dosage was increased about 1925, and later a 4-gramme radium pack was added to the equipment. But a decrease in local recurrences from 30 to 24 per cent. is ascribed to the use of gold radon tubes instead of bare glass seeds. Of the radiation transmitted by the glass seed, 96·5 per cent. are beta rays and 3·5 per cent. gamma rays; whereas, with a 0·3 mm. gold filter the proportions are 8·8 and 91·2 per cent. respectively. As might be expected, with the elimination of nearly all the soft necrosing beta rays, the results are far better, and a platinum or gold filter is now almost universally employed in interstitial radiation. The method of treatment of cervical metastases is somewhat similar to that employed by Dr. Elis Berven,[3] in Stockholm, which was noted in our columns at the end of last year; but Dr. Berven prefers teleradium treatment, or the emanation from a large quantity of radium at a distance of 4 to 6 cm., to X rays as causing less reaction and dysphagia. Cases come for treatment at such various stages of the disease that it is of little value to compare the results of treatment of a

[1] Med. Jour. Australia, March 26th, p. 438.
[2] Surg., Gyn., and Obst., March, 1932, p. 539.
[3] THE LANCET, 1931, ii., 1247.

relatively small number of patients, but it may be said that Dr. Duffy's figures of over 20 per cent. of cases clinically free from disease after five to nine years are very encouraging. It should be noted that he employs a 4-gramme radium pack, and Dr. Berven a "gun" containing 3 g. of the element; it appears that, at the least, there is a strong case for further experimental work with large undivided quantities of radium in the treatment of cancer of these regions.

STITCH.

IN its original and complete meaning—a sharp acute pain in the intercostal region—the term "stitch" is rarely employed, although it may be frequently encountered in Shakespeare, and Dr. Percy Kidd, in Allbutt's "System of Medicine," refers to the "agonising stitch of pleurisy." In its limited more popular application, by stitch is generally understood the familiar pain in the side induced by sudden severe muscular exercise, especially if food has been taken only a short time previously. The genesis of stitch has always been of no little interest to athletes, since its occurrence usually demands cessation of the exercise. Some relation to the circulation has perhaps not unnaturally been regarded as the important factor; for example, it has been attributed to tension of the capsule of the spleen through congestion of the viscus, and references are forthcoming in classical and Biblical literature to the operation of splenectomy in runners as a preventive measure. To the objection that the right side of the body is sometimes or as often affected, supporters of the circulatory hypothesis incriminate the liver instead of, or equally with, the spleen, though the performance of hepatectomy was probably not contemplated even by our enterprising predecessors. That oarsmen, in whom the exertion is at least as violent as in runners, are immune from stitch was not considered an objection to the explanation, inasmuch as the muscular movements and the posture in boat-racing would encourage the expulsion of blood from the solid abdominal viscera and so avoid distension. The death blow to the circulatory hypothesis was however struck by Joseph Barcroft in his demonstration that the spleen during exercise is contracted, not distended. Furthermore, the same kind of pain is produced by riding a camel with a jerky action or a motor-cycle on a rough road, although in these circumstances any circulatory influences may be excluded. It becomes necessary therefore to construct a more satisfactory hypothesis based upon ligamentous or muscular phenomena. The subject is entertainingly considered in the *Guy's Hospital Gazette* of April 30th, with subsequent correspondence in a later number. The writer, E. T. C., regards as essential factors the erect posture and a jolting up and down movement. In the erect attitude, he points out, the heaviest viscera, the stomach, liver, and spleen, are partly supported by the musculature of the abdominal walls, and stitch appears in those situations where the walls are less able to provide adequate support, so that the vertical strain on the ligaments is much intensified. The idea that spasm of the diaphragm might be responsible was disproved by the experiments of four Guy's students who voluntarily induced stitch by running after a heavy meal, and in whom fluoroscopic examination failed to reveal any diminution or defect in diaphragmatic movement. During running, whilst maximum excursion of the respiratory musculature of both thorax and abdomen is essential, there is at each expiratory gasp complete relaxation of the muscles maintaining intra-abdominal pressure. If violent jolts coincide repeatedly with this relaxation, the result will be an intermittent tugging strain on the coronary and other ligaments, an "acute physiological visceroptosis" so to speak, an effect which the Guy's writer states will tend to disappear with the better coördinated respiratory movements when "second wind" is established—an opinion which will not, however, be corroborated by all long-distance runners. Stitch, it is clear, is more likely in the case of the untrained; it will be expected in cross-country running where the surfaces to be traversed are rough and irregular, and also in certain runners whose imperfections of style and action lead to jerkiness and vibration. In all probability there is also a constitutional predisposing factor, since, as is well known to clinicians, visceroptosis is productive of symptoms only in those subjects with the appropriate receptive mechanism.

THE LIFE-HISTORY OF TREPONEMA PALLIDUM.

IN a recent examination for a post-graduate degree, a question was asked on the life-history of spirochætes. The marking of the answers must have proved a difficulty; it would be a brave and a learned examiner indeed who could vote any answer either right or wrong. The life-history of *Treponema pallidum* is, in fact, quite uncertain. Some authors, such as Noguchi, held that it simply splits in two; others, such as McDonagh, believe that it has a cycle as complex as that of the malarial parasites. It may be surprising to the reader who has not maintained contact with recent work on syphilis to discover, in a review by Dr. Norman Ingraham,[1] that there are serious reasons for doubting such statements as that the treponema has been cultivated; and that many distinguished workers are not sure that the familiar organism of the dark-ground field is the form, even if it is the species, which transmits the disease. When a piece of syphilitic tissue is placed in culture medium, it is true that treponemata are later found in it. But they may only have migrated from the tissue. And what is happening in the incubation period, when the organisms are not found, or in the tertiary or parasyphilitic stages, when they are only rarely discovered? Even in congenital syphilis, which every student imagines to be characterised by a liver swarming with parasites, actually only one-third of the cases show them. Moreover, arsenical preparations certainly kill the familiar treponema; but they do not always cure syphilis. Is this because the parasite becomes arsenic-resistant? Or because it lurks, entrenched and secure from attack, in some vaguely imagined privacy? Or because it passes through a phase which is arsenic-proof? A further difficulty concerning the treponema is that even those who claim to cultivate it admit that old cultures and sub-cultures are non-infective. Is this because in them the intermediate, infective stage is lacking?

When, however, we look for suggestions as to how the organism multiplies, we find most contradictory evidence. McDonagh, who first pointed out that dividing forms were absent in scrapings of chancres, stated in 1912 that he had seen the organism developing from a sporozoite through sexual forms (including a "spirochæte") to a minute infective spore. He called the parasite the "leucocytozoon syphilidis." As Ingraham points out, the only published

[1] Amer. Jour. Syph., April, 1932, p. 155.

references to work on this theory confirm it; much as (according to Chesterton) all the evidence on the question of ghosts is positive. McDonagh himself has since left the narrower field of syphilitic ætiology; but it is certainly strange that his work, which has been confirmed, is not more often mentioned and tested. Again, there is great difference of opinion as to whether the organism is filtrable or not. The question is possibly insoluble. When positive inoculations or cultures are stated to have been obtained from treponema-free filtrates, it is impossible to deny the argument that a few were overlooked. A second method of division has been suggested by Meirowsky, who believes the treponema to be a higher fungus. It was stated to be a protozoon by Noguchi, for a number of reasons, most of which are now held to be false. Meirowsky states he has seen the parasite bud. Levaditi and others hold that it goes through stages from an ultramicroscopic particle to the full fledged spiral. Quite apart from this observation, they contrast the almost invariable virulence of lymph glands, in early syphilis, with the absence of parasites. This fact, they explain, is due to its existence in a filter-passing stage.

The conflict of evidence is highly confusing. The difficulties of the case are, of course, largely due to the optical peculiarities of the ultramicroscope. Even in the hands of the expert it is a treacherous instrument; in the hands of the inexpert it is responsible for a high percentage of laboratory "howlers." There are few things as certain as that the *Treponema pallidum* causes syphilis. But whether it does so in the form familiar to us, or what its life-history may be, are very far from proven; fit questions as yet for the post-graduate examiner.

DIPHTHERIA IMMUNISATION IN INFANTS.

THERE is reason to think that if active immunisation is to make any substantial reduction in the incidence of diphtheria in a community the effort must be concentrated on children of pre-school age.[1] If so, it is important to determine the youngest age at which it is profitable to begin. It is known that most infants, of town-bred mothers at least, possess at birth sufficient maternally transmitted passive immunity to render the Schick test negative. This transmitted immunity persists in the majority at Schick-negative level for about three months and then wanes somewhat rapidly until at six months of age a high percentage of infants are Schick-positive and therefore at risk following exposure to infection. In some infants this passive immunity is lost more slowly and the Schick test may change, for this reason, from negative to positive within the first three years of life. The acquirement of active immunity as the result of subclinical doses of infection may again reverse the Schick test which then becomes permanently negative. In a recent paper J. Blum[2] draws attention to the effect of transmitted maternal immunity upon the success of active immunisation. In a home for infants Schick tests were performed at frequent intervals varying from six months to three years after immunisation. It was found that the percentage of positive reactions to the first test after immunisation from birth to nine months of age was less than the percentage of positive reactions to the later test. The greatest proportion of positive reactions following immunisation (32·4 per cent.) occurred amongst infants from birth to three months, and the smallest proportion (5·4 per cent.) amongst the oldest children of from two to four years of age. The proportion of positive reactors in the three to six months and six to nine months groups was the same (25·7 per cent.), whereas in the nine to twelve months and one to two year groups the percentages were 15·4 and 8·3 respectively. These figures demonstrate clearly a fact which is well known to immunologists—namely, that the existence of passive immunity may damp down and render less effective the stimulus of the prophylactic to the production of antitoxin by the tissues. The response is poor. While it is customary in many immunisation clinics, and should be in all, to perform whenever possible a confirmatory Schick test at an interval after immunisation in order to ascertain the fact of immunity, the preliminary Schick test, on grounds of expediency and economy of time, is often omitted in the case of children under 6 or even 8 years of age. After that age the preliminary test is desirable not only because the proportion of natural immunes may be considerable, thus rendering injections unnecessary, but also because the children may have become protein-sensitive, and a modified dosage may be required. Unless the Canadian "reaction test,"[3] which consists in the intradermal injection of a small amount of diluted toxoid, is employed, sensitiveness to the proteins contained in the prophylactic is only to be ascertained by the appearance of a pseudo-element in the Schick test. As Blum points out, if it is desired to immunise young infants, the best time to begin in order to get a satisfactory response is when the passive immunity inherited from the mother is lost. This, again, is only to be determined by a preliminary Schick test, which he urges should never be omitted before immunisation in the case of infants under 9 months of age. Omission of the test, Blum says, is hazardous and may lead, as his data show, to a false sense of security. It would seem that the practice adopted by many clinics in this country of beginning immunisation at 12 months of age is reasonable and permits, if practical difficulties exist, of the omission of the preliminary Schick test. Before that age the test should always be done.

[1] See THE LANCET, May 14th, p. 1052.
[2] Jour. Amer. Med. Assoc., May 7th, p. 1627.

THE COLLECTION OF STATISTICS IN THE TROPICS.

THE elaborate systems in vogue for the collection and publication of vital statistics in modern civilised states are certainly not without their critics—whose numbers are likely to increase in these times of national economy. The majority of persons interested in problems of public health are, however, agreed that accurate vital records are the most satisfactory yardstick by which the success or failure of public health measures and of the applications of preventive medicine can be gauged. What is true of western civilisations is no less true of the tropics. But in the latter at the present time the yardstick is nearly entirely absent. Even when statistical records are included in official reports they are often valueless, as their authors cheerfully admit, owing to their unreliability. Major Edge's object in a little book reviewed on another page is to examine the difficulties in the collection of accurate vital statistics in tropical territories, and to outline schemes by which he considers the essential data could eventually be secured. The process is likely to be very slow and Major Edge makes no attempt to minimise the difficulties facing the worker in the

[3] Burke, F. S.: Canad. Pub. Health Jour., 1930, xx., 209.

tropics. Taking a census is not likely to be an easy job when the population to be enumerated gets it into its head that "England has suddenly become unbearably hot, Queen Victoria desires virgins from each village in the territory to fan her day and night, and the census provides the means of selecting individuals for this purpose." Yet it is less than 200 years ago that the taking of a census in this country was opposed in the House of Commons on the grounds that Jehovah did not approve of the numbering of the people. A beginning must be made sometime even if it be on only a very small scale. In fact Major Edge goes so far as to propose that the best line of approach may lie in small-scale intensive inquiries, gradually widening in extent as means become available and as the inhabitants become inured to the cross-examinations by officials and the processes of registration.

RESPIRATORY FAILURE IN ACUTE ANTERIOR POLIOMYELITIS.

A DESCRIPTION of the Drinker-Shaw respirator, an apparatus designed for the prolonged administration of artificial respiration, and extensively used in America for the treatment of carbon monoxide poisoning, was given by Mr. Philip Drinker in our columns last year (1931, i., 1186). Dr. J. L. Wilson[1] has now reviewed 90 cases at the Children's Hospital, Boston, in which it was used in the treatment of respiratory failure due to anterior poliomyelitis. In this disease respiratory failure may come on in three different ways, which it is important (though often difficult) to distinguish clinically. There may be direct paralysis of the intercostal muscles and diaphragm due to "spinal" distribution of the disease; while a "bulbar" type of case may show either pharyngeal paralysis, causing interference with respiration from accumulations of secretion around the glottis, or paralysis of the respiratory nerve-centres in the medulla. The treatment and prognosis will be somewhat different in the three types. The object of artificial respiration will in each case, however, be to rest as far as possible paralysed muscles (in accordance with the orthopædic principles applied in the early treatment of the disease), to avoid exhaustion, and to abolish cyanosis—since, apart from the distress that cyanosis indicates, anoxæmia may actually contribute to the destruction of nerve tissue. Where there is pharyngeal paralysis, suction must be used for the removal of secretion from the glottis, and Wilson advocates the parenteral and rectal administration of saline and carbohydrate until the paralysed muscles show some degree of recovery. In this way the stomach is kept empty, and the danger of vomiting and inhalation of fluid—a frequent sequela of tube-feeding in these cases—is avoided. A tracheotomy may be necessary. Among 23 cases of the "spinal" type treated in the respirator, there were two deaths from pneumonia and one (in an adult) secondary to infected bed-sores. While no claim is made that the condition in all the remaining 20 would, in the absence of artificial respiration, have proved fatal, the low mortality is very striking. Also, since the date of two of the fatalities, technical improvements have been made in the apparatus which permit of frequent changes of position—an important factor in preventing both bed-sores and pneumonia—and all necessary nursing procedures to be carried out without removal of the patient from the apparatus. As would be expected, the percentage mortality in the group of bulbar cases treated was considerably higher, but here too the results were remarkable in view of the very high normal mortality. From the experience gained in the treatment of these cases, Wilson emphasises three important principles to be followed when the respirator is employed. It must be used as *early* as possible after the onset of the paralysis, and before the onset of cyanosis and dyspnœa. Delay often results in a sudden increase in symptoms and severe collapse, when transport to the apparatus may not be sufficiently rapid to save life. Treatment must be prolonged. Exhaustion of the affected muscles is apt to take place suddenly after premature removal from the respirator, although for short periods the respiratory function may appear to have recovered. It is also necessary to keep in mind the possible danger of tetany, but this is very unlikely to develop if care is taken to avoid over-ventilation of the lungs. It is clear from Wilson's results that the Drinker-Shaw respirator represents a real advance in the treatment of what is, happily, a comparatively rare type of case. Death from paralysis of the respiratory muscles is perhaps more distressing than any other, since it consists of slow suffocation whilst full consciousness is retained almost to the end. Undoubtedly the most striking feature of treatment with the respirator is the intense relief afforded to the patient—relief so marked that he will often fall into deep and prolonged sleep after the first few breaths within the apparatus.

[1] New Eng. Jour. Med., April 28th, p. 887.

PRECAUTIONS AGAINST SHOCK DURING ELECTROTHERAPY.

THE risk of serious electric shock is acknowledged to be greater from alternating currents, which are now increasingly used for the main supplies throughout the country, than from direct currents. On industrial premises 30 fatalities due to shock from alternating currents at between 200 and 250 volts have occurred during the past five years, as compared with one due to direct currents of similar voltages. In a memorandum (Memo. 161 Med.) to county and county borough councils the Ministry of Health outline precautions against shock from electromedical apparatus, careful attention to which should go far to minimise the risk of accident. It is obvious that old and improperly insulated apparatus is in itself a grave source of danger. A recent fatality was due to loose fastenings in the metal holders of a radiant heat bath, the patient under treatment being electrocuted when he grasped the bedstead, which was in contact with a hot-water pipe. It is essential when patients are receiving electrical treatment in bed that the iron bedstead should not be in contact with any earthed metal—e.g., heating or water pipes, radiators, or even an "earthed" wireless receiver. Where apparatus not insulated from mains is in use, it is undesirable that patients undergoing treatment simultaneously in the same room or ward should be within reach of each other. The source of supply for heat treatment by electrothermal compresses should always be at low voltage. Patients wearing wireless headphones while undergoing electrical treatment, or handling electrical apparatus, should be protected by the insulation of the output circuit to which the headphones are connected. Internal mesh guards should be fitted to the lamps and holders in radiant heat baths, and to projectors for light treatment. In general the use of sets for generating electricity (as galvanic, faradic, and sinusoidal currents) which are not isolated electrically from the source

of main supply, is deprecated. In the safer method of construction known as "earth free," electric shock at mains pressure would be possible only if a breakdown of insulation between the two systems occurred, and in good-class apparatus there seems to be no great risk of this occurring. For medical diathermy treatment the apparatus favoured is that which makes provision for the patient's circuit to be isolated electrically from the intermediate (or spark gap) circuit; the spark gap to be mounted inside the cabinet or enclosure containing the apparatus; the door of the cabinet or enclosure to be interlocked with the source of main supply so that the latter is disconnected when the door is opened. Regular and systematic inspection by competent experts should be made of all electromedical apparatus to ensure the maintenance of efficient insulation.

THE BRITISH LEGION VILLAGE.

IN April, 1925, when the British Legion took over the activities at Preston Hall, there were some 27 settlers —tuberculous ex-Service men—left by its predecessors, the Industrial Settlements Incorporated. At the end of September, 1931, there were 230 patients in the sanatorium, 555 in the Settlement, and a staff of 44. The institution, therefore, well deserves the title of "village." When a patient has been discharged from the sanatorium he lives in the hostel, if single, and in a house in the village with his wife and family if married. He is given the medical attention, sheltered employment, hygienic conditions, and social environment that he needs. He is on the panel of the medical director, and therefore eligible for all benefits under the National Health Insurance Acts, and his children attend the child welfare centre in the village. His dependents have the benefit of routine medical examination and are, on the whole, extraordinarily healthy. Not a single child has developed pulmonary tuberculosis, and among the 58 births which have taken place there has not been a single case of tuberculous meningitis. Dr. J. B. McDougall, the medical director, ascribes these happy results to the social environment; the freedom from worry and the relatively high standard of living. There is urgent need for more room for settlers, and the council feels that the local authorities, which have hitherto contributed nothing, should take their share in further expansion. The industries include the manufacture of portable buildings and travelling goods, a wood-graining department, a printing department, a live-stock department, and a village store. In the year ending Sept. 30th, 1931, the industries spent £30,368; paid £18,084 in salaries, wages, and commissions; and received from sales £54,571. The prosperity of the industries in the face of world-wide depression has been remarkable, and most of the departments are self-supporting. The appliance department has carried out work for a number of county, urban and rural district councils, and the high standard of the printing department, which sells £9000 worth of print per annum, is manifest in the format of the annual report. During the year, 351 patients were admitted to and 297 were discharged from the sanatorium section. Besides the necessary clinical work, in which artificial pneumothorax plays a large part, some research on the cellular content of tuberculous blood has been undertaken. The work includes a valuable after-care department, which sees that ex-patients get a fair chance in their struggle with life.

NARROW SPECIALISATION.

THE alternative educational system, characteristic of our public schools, which involves choice at an early age between the humanities and science, marks a transitional period. The distinction between the classical and modern side of a school is already less rigid than it was, and there is much overlapping. Most educational authorities are in fact agreed that anyhow up to the age of 16 specialisation should be discouraged. Unfortunately, however, as Sir Walter Fletcher pointed out in the course of an address to the Royal Institution last Friday, narrow specialisation after that age, and indeed throughout the undergraduate's career, has been pushed to excess. It is possible, and even usual, for students of physics and chemistry to proceed through school life and to a university degree without ever being made aware of the relevance of their work to matter endowed with life. The system under which university scholarships are allocated naturally influences the teaching in the higher forms of schools, and encourages concentration on physics and chemistry to the exclusion of biology. In a leading article in *Nature* last week W. H. G. deplores the spoon-feeding of ordinary students to enable them to gain honours degrees, since this policy favours "the present highly specialised school science teaching with its shocking neglect of biological science." Sir Walter Fletcher has peculiar opportunities for watching the subsequent development of the raw material from which students of science are made, and his comments merit close attention. It is wholly wrong, he contends, that the acquisition of manipulative and analytical skill should be associated chiefly with inanimate matter, when it is so urgently needed for the service of biochemistry and biophysics. It is to this absence of a broad basis of training that Sir Walter attributes the fact that organic chemists have been less active in promoting the growth of biochemistry than have physiologists. His plea for the encouragement of the more general study of living matter was the more effective since it followed a masterly survey of recent history in medical research. He showed how the varied fields now being explored call at every point for the intensive application of physics and chemistry, and illustrated by apt examples the absurdity of allowing artificial boundaries to separate the different sciences on which progress in medicine must depend.

WE regret to announce the death on May 30th of Dr. Remington Hobbs, medical superintendent of St. Mary Abbot's Hospital, and consulting gynæcologist to the borough of Kensington.

THE executive committee of the British Social Hygiene Council announce that, after further consultation with representatives of the British Medical Association, they have decided to abandon their proposal to approve the opening by their secretary-general of an economically self-supporting personal problems bureau, under the auspices of the Council, as to do this might be held to render it impossible for the British Medical Association to continue to be represented on the Council. At the request of the committee Mrs. Neville Rolfe has agreed in the circumstances not to proceed with this project.

SPECIAL ARTICLES

SOME THOUGHTS ON MEDICAL EDUCATION.*

BY SOMERVILLE HASTINGS, M.S.LOND., F.R.C.S. ENG.

THE medical profession in England is recruited to-day from a small proportion—approximately one-sixth—of the population, and all the ability and skill that exists in the other five-sixths is, as far as the science and practice of medicine is concerned, entirely wasted. I am aware that there exist many scholarships providing free of all cost a complete course of study for a medical degree, but unfortunately the student has to be fed and clothed and housed whilst he receives instruction. I am also aware that there are some 200 university scholarships given yearly by the Board of Education by which not only educational facilities but also an adequate sum for maintenance is provided. These scholarships are however tenable for at the most four years and a course of study for a medical degree takes at least five. As far as I have been able to discover there is not in England a single maintenance scholarship which will enable a boy or girl, whose parents are unable to maintain him/her without earning, to become qualified as a doctor. It may be objected that it is always possible for such an individual to take up some other trade or profession and, having saved money, to enter as a medical student. In exceptional cases this may of course be possible, but the best time for learning is immediately after leaving school, so that those who have spent several years in some other calling will find it difficult to start afresh their career as students.

MAINTENANCE SCHOLARSHIPS.

What we require are maintenance scholarships from the secondary schools to enable boys and girls who have the capacity to qualify as doctors and dentists to do so without any cost to their parents. If the nation so desired it, a provision could be made that those accepting such scholarships should agree to undertake service wherever this was required for the first three years after qualification, as is done in Russia. Under conditions of financial stringency, such as exist at present, it is not likely that the medical schools would raise any objection to accepting such students. If they did it would be a simple matter to found medical schools attached to the municipal hospitals, many of which are not only larger than the voluntary hospitals but contain clinical material of greater value for teaching purposes for those who will be entering general practice. The presence of students in a hospital is definitely advantageous to the patients. Students tend to keep the medical staff up to the scratch and attract to a hospital the best physicians and surgeons, because many of these are fond of teaching for its own sake and also because students when qualified are likely to call into consultation those whose opinions they have learned to value and respect. The foundation of medical schools at municipal hospitals would therefore be advantageous to these hospitals.

In Russia, where the whole cost of medical training is borne by the State, students are for the most part recruited from the factories and collective farms. Young men and women of promise are nominated by the local soviets and, if found suitable, are given a five years' course of training. This method is said to be yielding very good results. It must have this advantage, that the student will commence his studies with some knowledge and experience of the world as it really is. His outlook will not be confined to that of the nursery and public school as was the case with many of us. And because of this he will be able to appreciate much more fully the importance of environment in the ætiology and prevention of disease. On the other hand, he will probably be able to cram his mind less easily with that useless knowledge that most of us have been able to forget so successfully directly our examinations were past.

TRAINING FOR THE FUTURE.

The training of the medical student must be carried out on the assumption that he will probably live for some 30 or 40 years. We must therefore prepare his mind for changes that are inevitable in the organisation of the profession as well as for advances in scientific knowledge. The saying that "the centre of knowledge is for ever shifting" is surely true of the science and practice of medicine. We cannot of course tell in what directions progress will be made, but during recent years the physical sciences have been called in to an increasing extent to assist medicine, and marked advances have taken place in biochemistry. The curriculum is already much overloaded, but I think the burden could be reduced if more principles and less detail were taught and if a good deal of pharmacy and those parts of anatomy and physiology that can have no bearing on practical medicine were cut out. I am speaking now of the training of the general practitioner. Above all else the training in the preliminary sciences should be directed to the development of the type of mind that will collect all the facts and look at all sides of a question instead of jumping to a conclusion.

The human body differs so markedly from a cabbage that I fail to see what good purpose is served by teaching a medical student anything more than the most elementary principles of botany as a part of biology. There is far too much separation between the different subjects of the curriculum. The student takes his first and second examinations, and at once forgets most of what he has learned because it is not evident to him that these preliminary subjects have anything to do with what will be his life's work. The bearing of these on the study of medicine should be made clearer, so that the student may see his course of study as a continuous process designed to make him an efficient doctor.

A large proportion of the cost of medical education is borne by the State. It has reached as much as 60 per cent. in the case of one medical school and averages about one-third of the total amount expended. The practitioner has, therefore, definite obligations to the State that has helped to pay for his education, and can never justly regard himself merely as a private trader. His activities are already controlled and restricted in different ways. He is compelled by law to notify certain diseases, to give certificates of the cause of death, to order certain drugs only under prescribed conditions, and so on. The student must be taught to realise that his activities are of such

* Presidential address to the Socialist Medical Association on May 29th, 1932.

importance that the State will in the future be compelled increasingly to claim his assistance, and that inevitably the doctor must become a full-time State servant. Because this form of evolution appears certain, and because patients are beginning to demand it of him, the doctor of the future will have to know much more about the prevention of disease.

PREVENTION OF DISEASE.

"The teaching of medicine and its practice has," said Sir George Newman, "been all too often preoccupied in a confused and unequal struggle with end-results." In the same lecture he pointed out that we must teach preventive medicine not only as a special part of the curriculum, but introduce the preventive principle and the preventive trend into the main subjects—physiology, pathology, medicine, surgery, and obstetrics. The doctor of the future will be called upon to teach his patients the laws of health much more than he does at present. Soon after qualifying I remember being sent for by a intelligent woman to attend her young child for some trifling ailment. She made this the excuse for asking me a thousand questions about the food, clothing, exercise, sleep, and care generally of this child, of which I knew nothing, because I had been taught nothing. I was glad to escape after the most distressing viva voce examination I had ever had. Surely a course in physiology ought to begin with the laws of healthy living for adults and children, and if as I suspect we do not know much about these things, is it not time that definite research were undertaken?

But if we are to prevent a diseased condition arising, we must study and observe the natural history of that disease itself. It would be as sensible to study the natural history of a lion in a cage at the Zoo as that of consumption in a hospital ward. To understand the ætiology of a disease and therefore its prevention, and to some extent also its cure, the condition must be studied in the situation where it arises—in the homes of the people. I had the good fortune or misfortune to be brought up in a sheltered middle-class home. It was only when I went on extern duty and had to attend maternity cases in their own homes, that I began to understand how the poor had to exist, and could appreciate the reason for the high infantile mortality. Except on such duty the average medical student never sees disease in its natural setting, under the conditions which in many cases tend to produce it; and students who do their midwifery in hospital never get this advantage. If the medical student is to develop into a real "doctor," that is, teacher who gives instruction on the prevention of disease, he must see sick people in their homes. In my view an essential part of the training of a medical student should be the visiting of sick people in their homes in the company of the doctor who is attending them. This part of his education should take place within the last two years of medical study and preferably at the commencement of this period.

TRAINING OF SPECIALISTS.

It is time that we as a nation got rid of that most dangerous of all fallacies that any doctor is capable of undertaking any form of medical treatment. I know that in the case of emergency each one of us may have to do work for which we have had no training and of which we know little. We have simply to do our best. But unfortunately where no emergency exists work is undertaken by doctors with neither knowledge nor experience, and at present the public has no means of knowing whether the doctor who is in attendance has had efficient training for what he undertakes or not. The Medical Acts were passed so that the public may be able to distinguish between a man who has been trained as a doctor, and one who has not, and it ought to be equally easy to distinguish those who have had special training as physicians and surgeons from those who have only taken the course of study necessary for general practitioners. I should like to see a single State examination which all should be compelled to take before engaging in any form of practice and which would qualify for service as a general practitioner; and in addition, two other State examinations to be taken later by those who desire to do so, to indicate that the individual who satisfies the examiners has had the training necessary for a physician or surgeon. Other examinations might be taken to qualify for the various specialties. In each case evidence of having taken a special course of study and obtained special clinical experience would have to be produced before taking the examination.

It is a pathetic sight to see house surgeons and dressers who are going into general practice trying to learn the elements of minor surgery in a ward filled with gastrectomies and œsophagectomies, or to see a house physician and his clerks trying to become acquainted with the diagnosis and treatment of common ailments in a ward filled by diabetics, exophthalmics, and sufferers from rare diseases. And yet these very wards would be ideal for the training of those desirous of specialising as surgeons and physicians. The future general practitioner does not need to learn the details of complicated and difficult operations, and the treatment of rare medical affections. It would be nice of course if he knew all about such things, but there is so much that he must know about every-day conditions that he will spend his time to much greater advantage in the study of these.

But to whatever extent specialisation may develop in the future the diagnosis of disease must always remain largely in the hands of the general practitioner, and on his skill in the early recognition of diseased conditions the health of his patients will largely depend. Hence in the training of the general practitioner three sections of the subject of medicine will need to be especially stressed: *pathology*, because it is the basis of all scientific medicine; *diagnosis*, because the general practitioners must always form the first line of defence in the fight with disease; *prevention*, because it will be the duty of the practitioner of the future to keep his patients in good health as well as to treat them when unwell. It seems to me also that great care must be taken not to make the curriculum for the general practitioner's degree too extensive. The subject of medicine is so vast and no part of it is unimportant. While it is difficult to decide what can be safely left out it must be remembered that the average student can only absorb a certain amount of knowledge in five years, and that it is better to know a little well than a lot imperfectly. I would therefore make the curriculum limited and the standard high. A pass mark of 40 per cent. may be very nice for the student, but a patient needs more than 40 per cent. of correct diagnosis when he is ill.

A HOSPITAL MEMORIAL WING.—Last week Lady Maurice Fitzgerald opened a wing in Wexford County Hospital which has been provided by the Wexford Hunt Committee as a memorial to her daughter, Mrs. Lakin, who died from injuries sustained in the hunting field. The wing is intended for maternity patients, and a portion has been set aside for free treatment.

GENERAL MEDICAL COUNCIL.

SUMMER SESSION, MAY 24TH–28TH, 1932.

Penal Cases reported by the Dental Board.

THE Council ordered the erasure from the Dental Register of the names of the following practitioners, "Dentists, 1921," who had been reported by the Dental Board for obtaining money from friendly societies under false pretences: Frank Cecil Earle, 64, Glencoe-street, Anlaby-road, Hull. Archibald MacNab Robertson, 16, Rosefield-avenue, Portobello, Midlothian. William Patrick Donnelly, 33, Templemore-avenue, Belfast. The first-named had also been found guilty of covering an unqualified practitioner.

Penal Cases adjourned from Previous Sessions.

The Case of James Gordon Bell, M.C., registered as of 47, Barrow-road, Bristol, L.R.C.P. Edin. 1914, L.R.C.S. Edin. 1914, L.R.F.P.S. Glasg. 1914, M.B., Ch.B. 1914, U. Edin., who had been summoned to appear before the Council on Nov. 27th, 1930, on the following charge:—

"That you were convicted of the following misdemeanours, —viz.: (1) On Feb. 21st, 1928, at the Sheriff Court, Stirling, of driving a motor-car recklessly while in a state of intoxication, and were fined £15, licence suspended until date of expiry, and prohibited from obtaining another for two years thereafter; (2) On May 5th, 1930, at the Sheriff Court, Dunfermline, of driving a motor-car negligently, and driving said motor-car against a tramway car, and were fined £3, current licence suspended, and disqualified from obtaining another for five years from expiry of current licence; (3) On May 17th, 1930, at Edinburgh Police Court, of being drunk and incapable, and were fined 15*s.* or ten days' imprisonment."

The Council had postponed judgment in June 1931, subject to the usual conditions of good behaviour and the production of favourable written testimony from a number of professional brethren.

Dr. Bell appeared but was not represented. Mr. Harper, solicitor to the Council, read testimonials written by certain medical men on the respondent's behalf, and a letter written to himself by the respondent.

Dr. Bell, examined as a witness, said that he was trying to build up a practice, but that his health was poor. The Council decided not to erase his name from the Register.

The Case of Alan Gray, registered as of 65, Mostonlane, Blackley, Manchester, M.B., B.S. 1925, U. Durh., who had been summoned to appear before the Council on the following charge:—

"That you were convicted of the following misdemeanours —viz.: (1) On Sept. 13th, 1927, at the Blyth Police Court, of being drunk in charge of a motor-cycle, and were fined £1 and £1 11*s.* costs, and of driving the motor-cycle to the danger of the public, and were fined £1. (2) On June 15th, 1931, at the Middleton Borough Police Court, of attempting to drive a motor-car whilst under the influence of drink, and were bound over for 12 months in the sum of £25 to come up for judgment if called upon and ordered to pay £2 17*s.* costs."

Dr. Gray appeared. Mr. Harper read testimonials on his behalf, and the respondent gave assurances of his intention never again to offend in the same manner. The Council decided not to erase his name.

The Case of George Francis Donaldson Perrott, registered as of 46, Belsize-road, Uxbridge, Middlesex, M.R.C.S. Eng. 1928, L.R.C.P. Lond 1928, who had been summoned to appear before the Council on the following charge:—

"That you were convicted of the following misdemeanours —viz.: (1) On June 16th, 1930, at the Westminster Police Court, of being drunk while in charge of a motor-car, and were fined £25 and £6 6*s.* costs, eight weeks' imprisonment in default, and your licence endorsed and forfeited for 12 months; and (2) On March 7th, 1931, at the Bournemouth Police Court, of being under the influence of drink to such an extent as to be incapable of having proper control of a motor-car of which you were the driver, and were fined £30 and £1 16*s.* 6*d.* witness fees, or three months' imprisonment in default, and were disqualified for holding a licence for 12 months."

Dr. Perrott appeared but was not represented.

Mr. Harper read testimonials written by medical men on his behalf, in one of which it was suggested that his probation should be extended for a year.

Dr. Perrott said his appointment at his hospital ended in June. It would be very difficult to get testimonials if he was moving about, and another year's probation would debar him from taking a practice. The Council decided not to erase his name from the Register.

New Penal Cases.

A CONVICTION FOR MALPRAXIS.

The Case of Mrs. Rona Lockhart Wotherspoon, registered as of 293, Main-street, Barrhead, Renfrewshire, L.R.C.P. Edin. 1914, L.R.C.S. Edin. 1914, L.R.F.P.S. Glasg. 1914, who had been summoned to appear before the Council on the following charge:—

"That you were convicted on Nov. 24th, 1931, at the High Court, Glasgow, of the following offence—namely, of attempting to procure abortion by using an instrument, and were sentenced to nine months' imprisonment."

The respondent did not appear. Mr. Harper informed the Council that she was still serving her sentence and that she had written to him asking for an adjournment, as she had no money to employ a legal adviser. The Council did not see fit to postpone the hearing, and directed that the respondent's name be erased.

MOTOR-CAR CHARGES.

The Case of James Francis Patrick Devlin, registered as of 163, Lees-road, Oldham, M.B., B.Ch. 1916, N.U. Irel., who appeared before the Council on the following charge:—

"That you were convicted at the Manchester City Police Court: (1) On June 14th, 1924, of being found drunk on a public highway, and were fined 5*s.* or six days' imprisonment; and (2) On Dec. 14th, 1931, of being in charge of a motor-car on a public road while under the influence of drink, and were fined £15 and ordered to pay 31*s.* 6*d.* extra costs or 49 days' imprisonment and your licence endorsed."

Mr. Harper read testimonials on Dr. Devlin's behalf, also two letters from the respondent. Dr. Devlin gave his assurance that nothing similar would occur again and the Council decided not to erase his name from the Register.

The Case of Frederick Percy Richard Gover, registered as of c/o Messrs. Gover and Co., 8, Bush-lane, Cannon-street, E.C.4, L.R.C.P. Edin. 1910, L.R.C.S. Edin. 1910, L.R.F.P.S. Glasg. 1910, who had been summoned to appear before the Council on the following charge:—

"That you were on March 2nd, 1932, at the Mansion House Justice Room in the City of London, convicted of the following misdemeanour—namely, of driving a motor-car while under the influence of drink, and were fined £100 and 3 guineas costs and your licence suspended for three years."

Mr. Gover appeared in answer to his notice and was represented by Mr. W. B. Frampton, instructed by Messrs. Percy Robinson and Co.

Mr. Harper laid the facts before the Council, pointing out that this was in fact Mr. Gover's fifth conviction, the first having been in 1916. Convictions had included both drunkenness and careless driving. He had served one month in the second division in 1919, and in 1920 had run down a woman in Kingsway. An inquiry had been held under the National Insurance Acts in February 1921, and respondent had then declared that he would never drive a car again

and would abstain from drink in the future. All the offences had been committed outside his district and none had been connected with any patient; no insured patient had ever complained. The conclusion of the inquiry—in view of all these facts—had been that the respondent would probably not offend again, and he had been put on probation for a year by the Minister. Mr. Gover had appeared before the Council in 1921, had been put on probation for a year, and had renewed his solemn promise to abstain from alcohol. From that day to this the Council had had no further information of any misdemeanour. In February last he had been found careering down the footway of a narrow road in the City, scattering pedestrians in all directions.

Sergeant Frank Watts, of the Metropolitan Police, testified to his arrest of Mr. Gover. He had found a large crowd, and a car moving on the footway. He had concluded that the driver was under the influence of drink, and had asked him to leave the car. The respondent had pleaded guilty through his counsel at the hearing on March 2nd. A charge of dangerous driving had been dismissed.

Cross-examined by Mr. Frampton, he said the doctor had been "a perfect gentleman" throughout and that there was only just room for two vehicles to pass in that thoroughfare; a careful driver might mount the pavement to pass another car. Re-examined, he said he had never seen a driver mount the pavement in that road before.

Mr. Frampton, addressing the Council, expressed respondent's profound regret that he had broken his undertaking. He asked if there were any statute of limitation for past offences and whether the punishment already received was not enough. He read a report from the police in 1922 giving Mr. Gover a very high character professionally. The doctor had taken a little alcohol, as he found it gave him great relief from colitis. He had been arrested immediately on leaving a club, just as he had started the car.

Mr. Frampton then called a number of medical and lay witnesses to Mr. Gover's character. They spoke enthusiastically of his work among the poor and of his reputation, and denied personal knowledge of any alcoholic habits.

After deliberation in camera the President announced that Mr. Gover would be called upon to appear again before the Council in May, 1933. The Council had found the charge proved, but hoped that Mr. Gover would abstain strictly from alcohol in future, and they had therefore postponed judgment.

A QUESTION OF CERTIFICATES.

The Case of Thomas Turnbull Tiplady, registered as of 102, Rye-hill, Newcastle-upon-Tyne, L.M.S.S.A. Lond. 1919, who had been summoned to appear before the Council on the following charge:—

"That being a registered medical practitioner (1) You did on three separate occasions—namely, on Nov. 22nd, 1919, June 7th, 1930, and July 8th, 1930, furnish certificates to the Ministry of Pensions relative to a claim by an ex-soldier John Ewart to a war pension (of which the second was on the official form M.P.A.O. 38) which were misleading and improper in that you gave a misleading and unreliable history of the post-war health of the said John Ewart from June, 1919, to the end of 1927; and (2) that on being questioned by the Ministry you alleged first that the certificates were based on your records, secondly that you had no record of the case, and thirdly that you had based them on Ewart's card which you had returned to the Insurance Committee, although no trace of the records can be found and the said Ewart had ceased to be insured in June, 1922. And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect."

The Ministry of Pensions, the complainants, were represented by Mr. Glover, and Dr. Tiplady by Mr. Davis, of Messrs. Bulcraig and Davis.

Mr. Glover explained the position of the Minister of Pensions and the difficulty of his task, which involved great reliance on the certificates of private practitioners. He handed in the documents. In October, 1929, Ewart had made an application in respect of pulmonary tuberculosis. During the course of an examination by a Ministry of Pensions officer he had said he had suffered from blood-spitting in previous years. Later he had furnished certificates from Dr. Tiplady stating that the respondent had attended Ewart in 1927 for bronchitis. After inquiry about the blood-spitting, Ewart had furnished a further certificate stating that he had in fact had hæmoptysis at this period. The Ministry had then asked for further details and respondent had replied that he had no records. As his previous certificate had been given "as from records," the Ministry had written again. Dr. Tiplady had replied that the certificate had been made from the panel records, but inquiry of the Ministry of Health had shown that Ewart had not been an insured person since 1922, and that no records existed.

In reply to Dr. Bone, Mr. Glover said that the first part of the first charge—viz., the certificate dated Nov. 22nd, 1919—was now withdrawn.

Mr. Davis called Dr. Tiplady, who testified that Ewart had been under his care for some years and had suffered from bronchitis. In 1919 and 1920 Ewart had worked, casually, for him, and thereafter had consulted him professionally. He had been seeing him every second or third day up to the end of 1927. He had not mentioned blood-spitting in the first certificate because he had had the sputum tested and no tubercle bacilli had been found. His June and July certificates were accurate to the best of his knowledge and ability. When he had written his earlier certificate he had had a record; at that time he had been working with his father, but on his father's death a number of records had been accidentally destroyed by a secretary; it was therefore true that when he wrote to the Ministry on the material date he had had no record. The third communication, saying that he had sent the record to the Insurance Committee, was a mistake, due to confusion of two patients with the same name.

Mr. Davis then addressed the Council, giving Dr. Tiplady's assurance that he had never intended to do anything misleading. The Council found that the charges were not proved to their satisfaction.

A CHARGE OF ADVERTISEMENT.

The Case of Vincent Blumhardt Nesfield, registered as of Sandhurst, Kent, M.R.C.S. Eng. 1901, L.R.C.P. Lond. 1901, who had been summoned to appear before the Council on the following charge:—

"That, being a registered medical practitioner, you have sought to attract to yourself patients or to promote your own professional advantage by means of all or any of the following acts: (1) By being associated with or employed by an individual and/or firm who to your knowledge sought to attract patients by advertising and canvassing through the medium of—(*a*) an article in the *Daily Express* of Nov. 6th, 1931, and (*b*) an undated commercial circular, both relating to an alleged remedy for diabetes, pneumonia, blood poisoning, high blood pressure, epilepsy, mental incapacity, neurasthenia, general debility and other human ailments, known as vit alexin. (2) By advertising and canvassing through the medium of an interview given to and/or an article published in the newspaper *Az Est* of Buda-Pest and/or the newspaper *Lu* of Paris (Jan. 29th, 1932) relating to the said alleged remedy. (3) By keeping secret from the medical profession and from the public the formula or process for the production of the said alleged remedy, and being interested in its commercialisation as a secret remedy. (4) By publishing in the *Medical World* of the said Nov. 6th,

1931, an article advocating the use of the said alleged remedy without divulging your said interest therein. (5) By seeking by means of the said articles and circular and by a letter to Messrs. John Bell and Croyden, dated Nov. 11th, 1931, to induce registered medical practitioners to use in the treatment of their patients and to make themselves responsible for a medicament—namely, the said alleged remedy, of whose properties and/or action such practitioners were not fully informed. (6) By alleging in the said article in the *Medical World* that one of the cases therein mentioned was cured by means of the said alleged remedy, whereas the cure was in fact and to your knowledge effected by means of another and different remedy. And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect."

The hearing of this case took three days.

Mr. Nesfield appeared in answer to his notice, accompanied by Lord Erleigh, K.C., assisted by Mr. Arthur Ward, Counsel, instructed by Messrs. Bulcraig and Davis, Solicitors. Dr. William G. Macdonald appeared and was accompanied by Mr. Valentine Holmes, Counsel, instructed by Messrs. Bristows, Cooke, and Carpmael, Solicitors.

Mr. Holmes stated that he would not proceed with the fourth charge. Opening the case, he said that Dr. Macdonald, the complainant, had been for some years associated with a Russian medical man and biochemist, Dr. N. E. Ischlonsky, who had held certain high continental posts. Dr. Ischlonsky's work had been in recent years chiefly connected with the investigation of internal secretions. He had succeeded in making a preparation of embryonic tissue to which he had given the name "hormactan," and which had given good clinical results. Among the patients whom Dr. Ischlonsky had successfully treated with this preparation had been the wife and family of a Mr. Archibald Sharp; this gentleman had been so grateful and had formed such a high opinion of the value of the treatment that he had made repeated requests to be allowed to exploit it commercially; Dr. Ischlonsky had, however, refused to allow him to do so. In October, 1930, Mr. Sharp had asked Dr. Ischlonsky to grant an interview to Mr. Nesfield, who had asked him for a quantity of his preparation in order that he might treat two patients whom he had named. One of these was a man of some eminence in the State and in the City of London, who had been a member of the War Cabinet; Mr. Holmes disclosed his name in writing to the Council and requested that he might refer to this gentleman as "Mr. B." The Council granted this request. Dr. Ischlonsky had considered that he was safe in trusting a member of the medical profession with his preparation, and had therefore supplied the respondent with 15 ampoules for £120, stipulating that he should be given full clinical details of the treatment. The respondent had sent him details of a patient 6 ft. 2 in. in height, 16 st. in weight, and 52 years of age, of extremely powerful and muscular build. The blood pressure had been 135–140. As a result of the treatment the stature had increased by 1¼ in. and the stance and sight had improved.

The complainant had in November, 1931, read a news article in the *Daily Express* referring in sensational terms to an article in the *Medical World* dated the same day, in which the respondent described the results of treatment by a preparation which he called vit alexin; the *Daily Express* article reproduced some of the clinical details, and among them was a case which corresponded exactly to the description of the patient whom Mr. Nesfield had informed Dr. Ischlonsky that he had treated with the hormactan supplied by the latter. Dr. Macdonald had secured the article in the *Medical World*, in which Case 1 was described as a case of general debility in a powerful man of 50 with a strong personality, who had been suffering from lassitude and decreased resistance to pneumococci, whose blood pressure had been 140 and his pulse-rate 60 and who could not read a newspaper without reading glasses. After 15 intramuscular injections of vit alexin at weekly intervals his skin had looked younger and his stature had increased by 1½ in. owing to his more erect stance and the increased tone of the intravertebral discs. Mr. Holmes pointed out that the wording of this case was practically the same as the wording of the clinical report Mr. Nesfield had sent to Dr. Ischlonsky. He pointed out that in both reports the words "the abdominal fullness disappearing" had occurred, and that in both the patient had been described as "finding himself reading a newspaper quite easily with distance glasses"; in both it had been said that "his mental quickness and perception had increased enormously."

Dr. Macdonald had then asked Dr. Ischlonsky if he might take the matter up; the latter had at first been unwilling to give his consent, thinking that to take any steps would be undignified, but he had later yielded to the complainant's persuasion. Complainant had examined the correspondence between Dr. Ischlonsky and Mr. Sharp, and found such striking resemblances in Mr. Sharp's letters to passages in the *Medical World* article that it was obvious that Mr. Sharp and Mr. Nesfield had been working together. Prosecuting his inquiries, he had come across an article in the French newspaper *Lu* which he had discovered was a literal translation of an article in the Hungarian paper *Az Est;* these articles described the wonderful properties of vit alexin and could only have emanated from the respondent.

Dealing with the charges in detail, he submitted that Mr. Sharp's letters could only have been written with the collaboration of the respondent and provided ample evidence that he was associated with Mr. Sharp in the campaign for attracting patients by advertisement. On the second charge, he said that this article had contained an account of two cases which had not appeared in the English articles and which, therefore, had presumably been supplied by the respondent. On the third charge, he pointed out that the mere fact that Mr. Nesfield had an agreement with the Vit Alexin Laboratories—Mr. Sharp's firm—to manufacture his preparation showed that he could not have disclosed it to the profession. On the fifth charge the same evidence was good, but Mr. Holmes withdrew the suggestion that respondent had enclosed a copy of the circular mentioned in charge 1 (*b*). Charge 6, which he had already dealt with, he submitted was the most serious of all.

Dr. William G. Macdonald testified to his statutory declaration. Cross-examined by Lord Erleigh, he said that a commercial man who tried to induce a doctor to enter into such an arrangement as Mr. Sharp had proposed to Dr. Ischlonsky would not meet with his approval. He was not suggesting that Mr. Nesfield had stolen Dr. Ischlonsky's invention, nor that Mr. Nesfield's preparation was in the nature of a quack remedy; he had no knowledge of it. His motive in complaining was to redress a slur on the profession. He admitted that the lay press often reproduced medical articles without the knowledge or consent of the author, but as the *Medical World* was published on Friday, the *Daily Express* could not have copied the article on the same day without prearrangement. He considered it significant that, whereas in the *Medical World* the age in the case of general debility was given as 50, in the *Daily Express* the age was given as 52. This patient had been described in one of Mr. Sharp's

letters to Dr. Ischlonsky as a man of 50, but Mr. Nesfield had given the correct age in a letter as 52. Mr. Nesfield, therefore, must be the source of the information in the *Daily Express*.

Lord Erleigh: You have been busy!—I have examined this with care.

Asked what evidence he had of Mr. Nesfield's connexion with the advertising campaign, the complainant replied that he knew of it only by inference, saying that, after all, the whole of diagnosis was inference. It was plain from Mr. Sharp's letters and his association with Mr. Nesfield that if there had been no collaboration there would have been no publicity. The continental article referred to a case observed in "a large public assistance hospital," a class of hospitals which only existed in Britain, and of which no Hungarian reporter could have known by himself; only a medical man familiar with institutions in this country could have given this information. The complainant had ascertained from a Hungarian representative of the paper *Az Est* in London that the French article was a true translation of the Hungarian. Lord Erleigh put to the witness an article from a German paper concerning vit alexin, in which the phrase occurred "one of the best-known London hospitals confirm." The witness suggested that probably the same man had written both, although the "public assistance hospital" had not been mentioned. He did not know that this article had come from a Berlin paper, and therefore must, as Lord Erleigh put it, have "gone the rounds." The witness said that he himself did not profit by the success of hormactan, and did not regard vit alexin as a rival. The "Vit Alexin Laboratories," the address at 27, Walbrook, consisted of two rooms only, in which no manufacture could be carried on. The interest of Mr. Nesfield in the commercialisation of vit alexin was, he said, another matter of inference from the fact that Mr. Sharp, in letters to an assistant of Dr. Ischlonsky's called Dr. A. Kousnetzoff, had referred to his association with Mr. Nesfield and had made an offer of shares in the concern. Vit alexin was sold by chemists to the medical profession. He had written to "Mr. B." and had obtained an interview with him in order to ascertain whether he was the man referred to.

Re-examined, he stated that he had made notes of that conversation. (Mr. Holmes read the note, which was handed in.) "Mr. B." had stated that Case 1 in the *Medical World* article did not correspond to his case, and had suggested that an interview would smooth things over.

In reply to a question by Dr. J. Lorrain Smith, witness stated that the French article contained the phrase "hôpital d'assistance publique."

Dr. N. E. Ischlonsky, examined, corroborated Dr. Macdonald's evidence. This closed the case for the complainant.

Defence.

Lord Erleigh then called "Mr. B.," who testified that he had known respondent for about seven and a half years. He was himself very much interested in scientific research; he held the degree of M.D. Edin., and had early in his life been interested in the ductless glands; 25 years ago he had been awarded a gold medal for a thesis on the subject. He had worked in this field with respondent, who had done most of the experiments on vit alexin with his knowledge and frequently at his expense. He had supplied the money and also the body on which to experiment! Respondent had a practice near his residence and a small cottage hospital, and did much practice without remuneration. A friend had informed witness of hormactan, and he had asked respondent to obtain some for him. He had paid £120 for 15 ampoules; it had been wanted for experiment, not for treatment. He gave details of the results of the experiments, which had taken different forms. He had supplied all the material for Mr. Nesfield's letter to Dr. Ischlonsky; the details represented accurately the results which had occurred in himself. At the interview with Dr. Macdonald he had stated definitely that the *Medical World* Case 1 did not refer to himself; he testified that he knew the name of the man to whom it did refer, and wrote it down for the information of the Council. The man was a personal friend, and would have come forward if he had not had to leave for South Africa just before the hearing.

Lord Erleigh then called Mr. Nesfield, who gave details of his career. He had obtained the Fellowship of the Royal College of Surgeons at the age of 23 and had invented the chlorine sterilisation of drinking water. His standard text-book on plague was still used in all medical schools in India. He ran a cottage hospital at his own expense, and his income, including his pension, amounted to about £900. He had been interested in the ductless glands for 18 years. He had collaborated with "Mr. B." for about seven years, and they had worked independently and compared notes. He had first treated patients with a preparation kindred to vit alexin about the end of 1928. He had first heard of hormactan from "Mr. B." in the autumn of 1930, when that gentleman had sent him a circular describing it; on the same day Mr. Sharp had called on him for the first time and told him of it, and also his own brother had asked him by telephone if he had heard of it. His brother was a friend of Mr. Sharp. He had administered two doses to "Mr. B." but then had fallen ill. In 1931 he had started manufacturing vit alexin, which he had previously called hormogen, in his laboratory in Sandhurst, instructing Miss Saunders, his wife's companion, in its preparation. She had had two girls under her. He had ceased to play an active part in September, 1931. The laboratory was now in Battle, Sussex. The company had been formed in February, 1932, half the shares being held by Miss Saunders as a trustee for respondent's wife and four children. There was no prospect of profit, and he was £250 out of pocket. He was not a shareholder. The article in the *Medical World* fairly represented the position. He had given no information towards the article in the *Daily Express*. A representative of the paper had called on him with the *Medical World* article, and he had said: "You mustn't put that in; if you do, I shall get into a terrible row." The representative had, however, declined to refrain from publishing it. A newspaper could get the *Medical World* the day before the public could. He had not drawn up the offending circular. Mr. Sharp had written it entirely from material in the article and respondent had never seen it. He had remonstrated furiously with Mr. Sharp, who had broken faith with him in printing anything without his knowledge, and the circular had at once been recalled. Questions in letters from doctors had been answered and the value of vit alexin to the particular patient discussed; lay persons writing had all been referred to their doctors. He knew nothing about the continental articles. He held that he would have been wrong to disclose the formula; if he had, England would have been swamped with foreign preparations of the kind. He believed in it as a wonderful remedy. The case in the *Medical World*

was not the one described to Dr. Ischlonsky. If he had known Sharp was organising this campaign, he would have stopped it.

Cross-examined, he said he had mentioned no names to Dr. Ischlonsky. Mr. Sharp had been Dr. Ischlonsky's business agent, and respondent had obtained the ampoules through him. The price was £150, but he had obtained a rebate of £30, which Dr. Ischlonsky offered for every patient he introduced.

He affirmed that he had told Dr. Ischlonsky frankly that he had been interested in hormones. He had considered obtaining a second series of ampoules. He thought the description of "tout" rather strong for Mr. Sharp; he was familiar with travellers from drug firms. Asked whether he condemned Mr. Sharp's conduct in acting as agent for Dr. Ischlonsky, he said that he could not criticise a foreign doctor; it was "all a matter of regulations." He had had no conversation with Mr. Sharp about the handling by the latter of the commercial rights of vit alexin until some time in the summer of 1931. Mr. Sharp had then asked whether he could "run" the preparation for respondent, who had replied that he was not very anxious for anybody to run it, because he had only been making enough for himself. At a subsequent interview, however, in the autumn, he had said that he supposed that somebody would have to do it as he could not. Mr. Sharp was to run the preparation and "do what was right" by the respondent, who had informed him that he was not the principal. He had not made any arrangement before the date of Sharp's letter to Dr. Kousnetzoff, and knew nothing about the letter. Mr. Sharp had known that respondent was writing an article for a medical journal; the respondent had shown it to him at his residence at Sandhurst in the summer. Mr. Sharp had read a little of it, but without comprehension, and had not been given a copy. He had seen it again in respondent's room in London and had thought it "rather a poor article."

In answer to the Legal Assessor, respondent said that Mr. Sharp might have had the article for an appreciable time, for respondent's brother, who had been in close connexion with Mr. Sharp, had had it in his possession. He had not made any inquiry about Mr. Sharp's prospective methods. Questioned on the reference to the "elixir of life," which had appeared both in his article and in one of Mr. Sharp's letters, he said that Mr. Sharp might have seen the phrase in his article. He agreed that the writer of the letter must have copied matter from the article. It was not, however, true that he and Mr. Sharp had worked throughout in coöperation. He had not known that Mr. Sharp was writing to Dr. Kousnetzoff and others the letters he had written, or he would have had no further communication with him. The method was thoroughly "awful." Respondent was very bad at business; he had left it to Mr. Sharp, stipulating that he should be shown letters. He described as "not nice" Mr. Sharp's remarks about press propaganda and such matters. He had asked Mr. Sharp why he had used the name "Hormogen Laboratories," and had accepted the explanation that it was a business method. The name of the preparation had been changed from hormogen to vit alexin at about that time, and Mr. Sharp had also altered the letterhead. He accepted Mr. Sharp's use of Miss Saunders's name on the explanation that two names were needed on a piece of paper. He did not know when the partnership had started. She was receiving 5*s.* a week from it, and had refused to take more. Mr. Sharp was, respondent supposed, to take the whole of the rest of the profits. He had chosen Mr. Sharp because the latter had approached him first. Respondent had insisted on being in charge of the manufacture until the company was formed. He had taught Miss Saunders, and when the preparation was manufactured she had sent it to Mr. Sharp. He had charged Mr. Sharp nothing for it; Mr. Sharp had paid for the raw material and the 50 or 60 people employed in collecting it all over the country; it cost £100 to £200 a week, and could only be obtained at certain times of the year. Altogether Mr. Sharp had paid about £2000 for it. This would have made about 5000 1 c.cm. ampoules. In answer to the Legal Assessor, he said that the weekly output had been about 48 ampoules. Miss Saunders and "Mr. B." were the only people who knew the formula. Half the profits went to the firm, and the expenses were found by Mr. Sharp. In answer to Mr. Holmes, he said that he was glad to say that Miss Saunders had had no chemical training, but that the manufacture was not complicated, though absolute attention had to be paid to certain details, as in a Wassermann test and staining a slide. Explaining his description of the process as too "complicated, delicate, and intricate" for publication, in answer to the charge of concealment, and its divergence from his present answer, he said that he had been referring to the actual technique of preparation, which deserved that description.

Questioned about the company's assets, he said that the company, in January this year, had become the owner of a very expensive laboratory; this, he said, ought to have been mentioned in the agreement of sale. It had been paid for by Mr. Sharp, who should in time have charged it to the company. Mr. Sharp was a very wealthy man. He had purchased a suitable unoccupied house in Battle and turned it into a laboratory at the cost of about £1000. The house, of bungalow type, had cost £900, and the conversion £200 or more.

It would be very wrong, respondent said, for him to publish the details of the process now that Mr.Sharp had spent all this money. He did not remember how the article had been sent to the *Medical World*. He had sent it first to the *Practitioner* and then to the *Clinical Journal*; it had come back, and he must have then sent it to the *Medical World*. He had written asking them if they would like to publish it, and they had replied that they would. He had not known when it was to be published until he had seen it in the journal. He did not know how Mr. Sharp had known about it on Oct. 8th or 13th, when he had predicted to Mr. Douglas Walker and Dr. Kousnetzoff that it would be published on Nov. 6th, after the General Election, simultaneously with the article in the *Daily Express*. He thought that Mr. Sharp had made a pure guess, and suggested that the *Daily Express* had seen his article in the *Medical World* the day before its publishing date.

The discrepancy of age must, he said, have been an ordinary inaccuracy. He could not remember the right age; he had no case records. He had some "rather feeble" records, in tiny notebooks, of the patients he had treated with hormactan and hormogen; he kept them entirely in his head. The details of cases in the *Medical World* had been written entirely from memory. When his material had got bigger—over about 40 cases—he had started keeping notes, but the early patients were all persons intimately known to him. They lived in the same small village, and he had seen them daily for years, and knew every detail of them. He kept notes of consultations.

Mr. Archibald James Menzies Sharp, examined, admitted the authorship of the letters before the court. Mr. Nesfield, he said, had known nothing about the letters or witness's proposed action. Cross-examined, he said that he hoped he was still a friend of Dr. Ischlonsky. He had not sent a circular recommending people to go to Dr. Nesfield for treatment, but had written to various people—leaders of finance and industry—recommending them to go to Dr. Ischlonsky, partly out of gratitude to the latter and partly from a sense of duty, as he felt that hormactan was a valuable discovery and would benefit their health in the present crisis, to the good of the country. He had introduced respondent to Dr. Ischlonsky, but the object of the interview had not been discussed in his presence. He knew that the respondent had obtained ampoules from Dr. Ischlonsky to treat a patient; he had inferred that they were for "Mr. B." At the beginning of 1931 he had begun to meet respondent and had discussed his work on hormones with him. In June he had hoped to be allowed to put the preparation before the medical profession. Respondent had all along refused to have anything to do with the commercialisation of the substance, and had given witness the benefit of his work on it at some time in the middle of the year. There had been no written agreement. He had made the arrangement before writing to Dr. Kousnetzoff. He had insisted that, after the respondent's years of research, his attitude was unreasonable and that his children ought to benefit. Asked why he thought that respondent made this gift to him, he said, because respondent was in entire sympathy with his attitude to Dr. Ischlonsky. In answer to the Legal Assessor, he said that he had been anxious that the poor, as well as the rich, should have the blessings of this treatment. Respondent had emphatically objected to the first circular and witness had had to visit him. He had then withdrawn it from the chemists to whom it had been supplied. He had not arranged for the publication of the article in the *Daily Express*, nor did he know that it was to be published on the same day as the *Medical World* article; he had thought it would appear on the following day. Asked why, he answered that he had not known when the *Medical World* article would become available.

Brig.-General C. L. Porter, examined, stated that he had become acquainted with Mr. Nesfield in 1919 in India, at a time when there had been a bad epidemic of plague. The disappearance of this epidemic had been due to the skill and devotion of respondent, of which witness could not speak too highly. Respondent was an outstanding man in many other ways, and was now a personal friend of the witness.

After counsel had delivered their addresses, the Council deliberated in camera. When strangers were readmitted, the President announced that all the charges except the fourth had been proved to its satisfaction and that it directed the Registrar to erase from the Register the name of Vincent Blumhardt Nesfield.

This concluded the hearing of disciplinary cases. The cases of Adam Hamilton and Andrew St. Lawrence Burke, summoned together on a charge of canvassing, were adjourned until the winter session, Dr. David Holmes (the complainant) being unable to attend through illness.

The Council restored to the Dental Register the name of Joseph Jennings.

MEDICINE AND THE LAW.

Sale of Poisons in Chemist's Shop.

THE Pharmaceutical Society continues its battle for the proper enforcement of the law relating to the sale of poisons. Under Section 3 of the Poisons and Pharmacy Act, 1908, a duly registered pharmaceutical chemist commits an offence unless, in all the premises where he carries on business as a chemist, the business is "bona fide conducted by himself or some other duly registered pharmaceutical chemist or chemist or druggist." The Society brought an action under this Section against a Wendover chemist who, for 42 hours in the week, was engaged in work a mile away at Halton Camp. During the period of his absence he left an unqualified assistant in charge of the Wendover shop, who sold the public any goods that might be asked for. The assistant was proved to have sold lysol on three separate occasions. The county court judge at Aylesbury, before whom the proceedings for a penalty were taken, held that Section 3 had not in the circumstances been infringed. The learned judge felt himself bound by the decision in Watkinson's case last year. That was a case where sale of poisons had taken place by means of an automatic machine outside the chemist's shop; it was there held that, as a matter of fact, the automatic machine was part of the premises where the business was carried on, but Mr. Justice Talbot took the view that there had been no offence against Section 3, because no unqualified assistant had been employed in effecting the sale through the machine. On appeal from the Aylesbury County Court Sir Leslie Scott, on behalf of the Society, sought to distinguish the Wendover case from the automatic machine case; he argued that the word "conducted" connoted some more physical supervision of the business by the chemist himself than the words "carried on." The King's Bench Division dismissed the appeal, but gave leave for further appeal. There is indeed much to be said for the argument that the Pharmacy Acts were intended to give the public a genuine protection from the dangers of sale by unqualified persons, and therefore that the control by the duly qualified and registered chemist must be real and not merely nominal.

Unusual Accident in Hospital.

An unfortunate accident in a hospital operating theatre was investigated during an inquest at Northampton last month in a case where death was found to have been due to acute meningitis. A patient was about to be operated upon for mastoid abscess. The anæsthetic had been administered and the patient had been lifted from the trolley to the operating table, when somehow the body slipped from the table and fell to the floor. A post-mortem examination showed that the inflammation of the brain was so acute that there was no hope for the patient, fall or no fall; there was some evidence that the effects of the fall might in fact have been mitigated by the anæsthetic. A legal representative appearing at the inquest on behalf of the hospital authorities, who was permitted the by no means universal privilege of addressing the coroner's jury, urged that there was no evidence of negligence. The coroner, in summing up, said the fall should not have occurred. Apparently the porter, standing at the

patient's head to disengage the pole from the sling, had turned away in watching the direction of the pole which he was removing; simultaneously the attention of the probationer nurse, who was at the patient's feet, happened to be momentarily distracted, while the anæsthetist had turned his back to pick up certain apparatus. The jury, in returning a verdict of the cause of death as already stated, added a recommendation that an additional nurse or attendant should be at the side of the patient in future.

Snail in Gingerbeer Bottle.

The medical profession is not so directly interested as the legal in the important House of Lords decision on May 26th about the snail in the gingerbeer bottle. A shop assistant, claiming £500 damages in a Scottish court, alleged that she had contracted a serious illness as the result of drinking part of the contents of a gingerbeer bottle which was afterwards found to contain a dead snail. No witnesses described the nature or origin of the illness; the judges were concerned with the mere preliminary point whether the allegations would support a course of action. Both parties agreed that the Scots law and the English law were here the same. The legal difficulty appears from a study of the earlier decisions. In Longmeid *v.* Holliday (1851) a shopkeeper sold a defective lamp with a bona fide warranty of soundness. The lamp exploded and injured somebody who was not privy to the contract of sale, but whose use of the lamp had been contemplated by the shopkeeper in selling it. The injured person was held to have no cause of action; he could not sue on the contract because he was not a party to it, and he could not sue apart from the contract because there was no fraud in the warranty. In Le Lievre *v.* Gould (1893), where a surveyor had given building certificates negligently but without fraud, and mortgagees had advanced money on the faith of the certificates, Lord Esher asked what duty there could be (where there was no fraud) when there was no contractual relationship between the parties. "A man is entitled to be as negligent as he pleases towards the whole world if he owes no duty to them." On the other hand, in George *v.* Skivington (1869), where a chemist sold a bottle of poisonous hair-wash to a customer, knowing it was for the customer's wife's use, and where she was thereby injured, the chemist was made to pay damages. In the recent case in the House of Lords, Lord Buckmaster said that George *v.* Skivington was bad law and ought to be buried in oblivion. Lord Atkin, however, delivering a judgment in which the majority of the House concurred, differed from Lord Buckmaster and invited their lordships to make the law conform to common sense. Here, he said, is a manufacturer who sells his product in such a form as to show that he intends it to reach the ultimate consumers in the form in which it left him, with no reasonable opportunity of intermediate examination (the gingerbeer bottle was of opaque glass and its contents could not be inspected till they were poured out); if the manufacturer knows that the absence of reasonable care in the preparation or putting up of the product is likely to cause injury to the health of the consumer, then he owes a duty to take that reasonable care. No more important problem, thought Lord Atkin, had occupied the judicial attention of the House of Lords—important in its public health aspect as well as in legal significance. If the poisoned consumer had no right to sue the negligent manufacturer, it would be a grave defect in our law.

NATIONAL INSTITUTE FOR THE DEAF.

THE eighth annual meeting of this institute was held at the Egyptian Hall of the London Mansion House on May 27th, when the Lord Mayor, Sir Maurice Jenks, presided, and in welcoming the supporters of the institute, emphasised the need for educating the deaf and the valuable work of the institute in this direction.

Mr. A. J. STORY, secretary of the Institute, then summarised the report of the executive committee for the past year, which showed that the six associations in affiliation with the National Institute, and covering England and Scotland, had continued their work of uniting public and voluntary effort. The report stressed the need for voluntary workers and the inadequacy of revenue and office accommodation. Other matters noticed in the report were the founding of a hostel for working deaf boys, and the improvement effected at Richardson House, the home for deaf women. The committee had to regret the recrudescence during the year of exploitation of the deaf by travelling "specialists" and others professing to cure head noises and deafness. The work of the medical committee had been found valuable, while the fact emerged that at least £40,000 was needed to promote the higher education of the deaf.

Mr. JOHN TENNANT, the hon. treasurer, said that in spite of every possible care the income for 1931–32 had failed to meet the expenditure by £110. There were less than 200 annual subscribers, and the aggregate subscription was only £318. The donations, mostly in response to special appeals, amounted to only £1259, but had it not been for these the deficit would have been indeed large. He felt sure that more than 200 people out of the forty millions in this country would subscribe if they knew of the present needs of the Institute.

Lord CHARNWOOD, the President, in moving the adoption of the report and accounts (both of which had already been circulated), after referring to the disabilities under which the deaf lived and to the skill that was required in relieving their plight, said that in response to pressure for several years on successive Ministries they had now succeeded in procuring an inquiry on the part of the Government, conducted by a capable investigator, into the efficiency of teaching in schools provided for the deaf and in the after-effects on their future lives. That inquiry by Dr. Eichholz had just been completed, and he was confident that the Government would make its conclusions public quite soon, when he hoped that the needed work would begin. It would be the business of the National Institute for the Deaf to press the Government to take with the least possible delay the steps forward which were pointed out in this report. Mr. Baldwin and Mr. Greenwood, continued Lord Charnwood, were the first important Ministers who had declared that the condition of the deaf needed such an inquiry as that to which he had referred. The activities of the work now covered England and Scotland, though not yet Wales, and were supported by local authorities and missions. Another matter was the admirable work done by the medical committee, which, if funds could be obtained, would be able to put the provision of aid for those who were becoming deaf on the same scientific basis as was already done for those with defective sight by the aid of glasses. Also there was now before the public a perfectly sound scheme, threshed out by educational experts, for a school for

the deaf which would give suitable boys and girls secondary education of a high quality. He believed that the work of the Institute was mainly hampered by the prevailing want of understanding on the part of the public of the needs of the deaf.

Mr. M. BIRLEY, the chairman of the executive committee, seconded the motion, which was unanimously adopted.

The Bishop of NORWICH said there were 40,000 deaf in the British Isles who ought to have all the help that could be given to them; 40,000 people who had never heard the sounds of the countryside, or the voices of those who loved them. Money was wanted to make these people useful members of the community, and he could not conceive of a better cause for public support. He moved "that this meeting, conscious of the grave disabilities arising from deafness in the lives of large numbers of citizens of this country, approves the efforts of the National Institute for the Deaf to ameliorate their conditions, and pledges itself to support the Institute and other bodies serving the interests of the deaf in every possible way."

This was seconded by the Rev. E. ST. G. SCHOMBERG, the Mayor of Westminster, and carried unanimously.

The meeting closed with votes of thanks to the retiring officers, who were re-elected.

UNITED STATES OF AMERICA.

(FROM AN OCCASIONAL CORRESPONDENT.)

THE CHICAGO PUBLIC HEALTH INSTITUTE.

THE Public Health Institute of Chicago was founded over 12 years ago through the interest of certain prominent citizens who had become appalled by the amount of venereal disease in the city. The institute has always been of the no-profit type with high social ideals. It has provided treatment at low fees for people who could not pay the regular prices for antivenereal treatment. It has advertised widely to all the danger of venereal disease and the importance of early and adequate treatment. But in its early years it ran foul of the local medical profession. Objection was taken to some of the advertising and to the unfair competition of low prices and to the wholesale methods of treatment. A prominent Chicago physician was disciplined for his connexion with the institute. Feeling ran high, but the trustees kept their heads. Two years ago they invited seven members of the profession to form a medical advisory board. This board was invited to nominate the medical staff, to advise the trustees on questions of medical standards or policies, and to censor the advertisements. The efficiency of the institute has doubtless been increased and its place in the community assured. A very interesting and encouraging report for the year 1931 has just been issued. As an indication of the volume of work done, a total of 42,000 visits were made to the syphilis division in the main clinic alone. Only six patients required hospitalisation because of treatment reactions.

SEEKING A MALARIA RESERVOIR.

The federal public health service, in coöperation with the State Hospital at Columbia, South Carolina, has recently inaugurated a programme of study seeking to assure for the treatment of general paralysis a reliable reservoir of malaria parasites. Experiments are to be made with artificial culture media. An interest is also being taken in problems connected with the nurture and transportation of infected mosquitoes. There are, it would seem, some in this country who do not believe that malaria therapy is to be replaced by other methods of inducing pyrexia.

INSTITUTE OF MEDICAL PSYCHOLOGY.

THE main objects of this Institute were clearly defined, in order of importance, by Dr. H. B. BRACKENBURY, chairman of council, at the annual meeting which preceded luncheon at the Wharnecliffe Rooms on May 31st. Treatment of individual patients came first, but only slightly less important was the self-imposed task of influencing public and medical opinion on the place which psychology should but does not yet take in the world of medicine. The training of workers, medical and lay, in the broad principles of psychotherapy was another important function of the clinic, and though at present funds were not yet available for serious and deliberate research, the correlation of mental and physical characteristics which was essentially research was part of the daily routine.

Mr. WALTER ROCH, the hon. treasurer, spoke of difficulties which had arisen quite recently, and would probably entail an additional capital expenditure of £700 before the Institute could move from its premises in Tavistock-square, of which the lease was expiring, to the more spacious quarters acquired in Torrington-square. Of the annual expenditure of £5000, about £2000 only came from patients' fees.

At the luncheon, which was well attended by friends of the Institute, Lady Erleigh spoke of the help given by members of the staff of the Institute when consulted by those concerned with the management of difficult children.

Sir HILTON YOUNG praised the wisdom of limiting the number of patients seen at the clinic; its fame must rest on the quality of the work done rather than on its quantity, though in fact well over 10,000 consultations had been held during the past year. More than 5000 cases had been treated in the 12 years of the Institute's existence, and recently 325 cases had been carefully followed up. The development of the Institute coincided with other new developments which the Mental Treatment Act, 1930, had made possible. Sir Hilton suggested the probability that the out-patient departments of mental hospitals would be concerned chiefly with the psychoses, and those of general hospitals with mental symptoms associated with physical disease, while the neurotics and psychoneurotics would be likely to gravitate to places such as the Institute of Medical Psychology, where prolonged treatment could be undertaken if required. Naturally there would be considerable overlapping in the type of patients seen. Neuroses and psychoneuroses were the characteristic physical evils of our times, and the Institute was doing a great work.

Dr. H. CRICHTON-MILLER, the hon. director, pointed out the urgent need of more floor space. There was no lack of men and women eager to become clinical assistants and to take a share in the work, but they could not be accommodated. The waiting-list of patients anxious to be treated had had to be closed before the last annual meeting and had not yet been reopened. New patients could of course be seen in consultation, but not for daily continuous treatment. Dr. Crichton-Miller said that the Institute was still battling against conservatism and obstruction within the medical profession, but the ideals and practical aims for which it stood were rapidly gaining ground.

A CHILDREN'S HOSPITAL PAVILION.

NEW BUILDINGS AT TADWORTH COURT.

THE accompanying illustrations represent the first of 12 proposed open-air pavilions to be erected in connexion with the extension of the branch hospital at Tadworth Court of the Hospital for Sick Children, Great Ormond-street, London. It was opened by the Princess Royal last Monday.

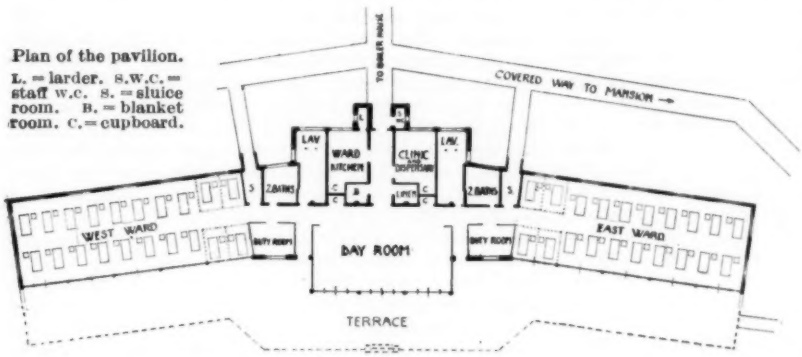
The pavilions will be situated on vacant land of approximately 50 acres and will be spaced in the shape of a fan, with south aspect, and on the main axial road, which will give access by covered ways to all pavilions. The general lay-out provides for a central service kitchen, and near to the main road will be the power house, laundry, &c. The scheme also provides for a nurses' home and recreation room, chapel, pathological section, isolation ward, operating theatre, and electrical treatment ward.

The first pavilion now erected is constructed with a steel frame and is fitted throughout with steel windows and steel folding doors, the latter being glazed with safety glass for the further protection of the children. Each pavilion accommodates 40 cots, and considerable space has been provided for gang-ways, thereby enabling all cots to be kept clear of the walls. Each pavilion is provided with a large lofty day room, approximately 40 ft. by 20 ft., and in either side are duty rooms which give uninterrupted supervision to the wards, the day room, and the external terraces. Immediately adjoining the duty rooms are the isolation cubicles, which are provided with removable partitions. Adequate lavatory accommodation is provided for each ward and there is a clinic and service kitchen, all of which are fitted with modern sanitary equipment and low pressure steam-heated sterilisers. The woodwork generally is faced with alder and fitted with special bright metal ironmongery which needs no cleaning.

Each pavilion is provided with broad terraces paved with stone, to enable cots to be wheeled out and to give a dry playing space for children who are able to get about.

The new pavilion, from the terrace.

[*Photograph by S. W. Newbery.*



Plan of the pavilion.
L. = larder. S.W.C. = staff w.c. S. = sluice room. B. = blanket room. C. = cupboard.

The lighting of the wards is concealed in the ceiling and special pilot lights are provided for night use. The building is heated by low pressure steam, and a special feature is the concealed heat-ray panels in the ceilings and walls, the former giving an effect of comfort heat, and the latter direct heat at approximately floor level. By this means no floor space is lost, and there are no unsightly dust-collecting radiators. A secondary means of heating is provided by gas radiators in the event of an emergency.

The floor coverings of the wards and the day room are of Canadian maple, with an oak margin against the south front to allow for driving rains when the folding doors are open. Elsewhere floors are laid with marble terrazzo, laid in situ. Fire hydrants, fire-fighting appliances, and alarm bells, electric clocks and telephones, are all installed.

The architect for the scheme is Mr. H. Courtenay Constantine, F.R.I.B.A., of 82, Mortimer-street, London, W.

BIRMINGHAM ROYAL CRIPPLES' HOSPITAL.—Last year was the busiest yet experienced, but by careful supervision the expenditure was reduced by more than £2000. There are two hospitals with a total of 210 beds, a convalescent school with 74 beds, an out-patients' department, and a students' hospital, and during the year 1020 in-patients were treated, 217 of whom were tuberculous children. The average weekly cost was £2 11*s.* 8*d.*, and their stay 98·41 days, as against 106·62 in 1930. Out-patients numbered 4320 and the average cost of each was £4 4*s.* 8*d.* It is pointed out that one of the difficulties of a hospital of this character is that the local authorities have no power to make grants in respect of the orthopædic treatment of non-tuberculous adult patients, who formed 52 per cent. of those registered in 1931. The training committee emphasises the economic and vocational importance of larger centres.

PANEL AND CONTRACT PRACTICE

Health Insurance: An American View.

IN 1930 the American Dental Association decided to make, with the assistance of the American College of Dentists, an investigation into the operation of health insurance in Europe, the object being to produce an impartial study that would "assist in the appraisal of health insurance as a device for meeting the costs of medical care for the underpaid section of American society." The Association were fortunate in securing the services of two highly competent investigators, Mr. A. M. Simons and Dr. Nathan Sinai, who began their work by a study of the printed material available in the United States, and that which could most easily be obtained from abroad, and continued by personal inquiries in England, Scotland, Germany, France, Belgium, Denmark, Austria, Switzerland, and Russia. The result of the investigation is a masterly document—informative, critical, and very readable—which cannot fail to interest not only medical and dental practitioners, but also all persons who care for public health progress.[1] Though the report is informative to a high degree its main concern is not to describe insurance institutions and regulations, but to focus attention "upon the way in which insurance operates and the effects of that operation upon the human beings involved."

The authors maintain that compulsory health insurance, like other forms of social insurance, is a result of industrialisation and low wages; that "the dominant motive in the establishment of every system of health or sickness insurance is the relief of poverty, not the preservation of public health." Health insurance in its inception had for its chief object the payment of cash benefits to compensate the incapacitated worker for the loss of wages. It was a way of inducing the working people to save up for a rainy day, and it was administered by persons whose chief interest was in the economic rather than in the health aspects of social reform. To-day the cash benefits are regarded as relatively less important than the provision of medical care; the chief object is to deal effectively with sickness and to restore lost earning power to the disabled insured workers. Restoration rather than compensation is the modern note, and it finds expression in the provision of medical services that tend continually to increase in range and cost.

GROWING INFLUENCE OF MEDICAL PROFESSION.

This development naturally enhances the importance of the doctors' function in health insurance. And health insurance takes a more prominent part in the doctors' professional activities, for the proportion of the population receiving medical treatment under health insurance schemes tends to increase, not only by additions to the list of insurable occupations, but also by the extension of medical benefit to the dependants of the insured persons. When compulsory insurance was introduced into Germany in 1884 it included not more than about 10 per cent. of the population: now nearly two-thirds of the population receive their medical treatment through the insurance societies. At first, the insurance law seemed of small consequence to the doctors in Germany, who in any case had no organisation which would have enabled them to secure any modification in the provisions of the law affecting medical services. But as the field of compulsory health insurance steadily extended the medical profession became more and more involved with the insurance societies, and though professional organisations were formed they were unable to secure radical alterations in the scheme. Consequently a spirit of antagonism between the profession and the societies developed which has had unfortunate results on the insurance systems.

But with the introduction of the National Insurance Bill into the House of Commons in 1911 a new era began in the history of health insurance. The Bill in its original form reproduced the objectionable features of the German system, but it did not long remain in its original form. Mr. Lloyd George came up against the British Medical Association, at whose insistence the Bill was altered in the things that really mattered to the doctors. It is doubtful if the leaders of the Association at that time fully appreciated the historic importance or the implications of the victory they undoubtedly won for the medical profession. Their example has been followed in other countries. The French insurance law, which established the latest of the European health insurance schemes, was profoundly altered to meet the demands of the medical profession, who in a few months raised a fighting fund of over a million francs and set in motion a wide campaign of public education on the questions of medical service. If compulsory health insurance is introduced into countries, such as the United States, in which it has not yet been established, it will be strange indeed if the doctors allow themselves to be taken unawares.

SEPARATION OF CASH FROM MEDICAL BENEFITS.

According to this report the chief effect of the influence that the medical profession has exercised on health insurance is the separation of the cash benefit side of insurance from the medical services. This has not been effected in Germany, where the insurance societies (*Krankenkassen*) not only collect the contributions and pay the cash benefits, but also employ and control the insurance doctors. In Great Britain the insurance societies were placed in a similar position in the original draft of the Insurance Bill, but the Government were obliged by the opposition of the British Medical Association to create a new local body, the Insurance Committee, to administer medical benefit. In the French insurance scheme the separation of cash benefits and medical service is carried still further, for the insurance doctor is under no contract with a lay administrative body, but is paid direct by his insured patients. The control of medical service is exercised, except in very unusual circumstances, by the medical profession.

The report traces the results that follow upon the separation of the cash benefits from the medical service, the most important being the participation of the medical profession in the administration of the insurance scheme. The report explains in detail what this implies. To begin with, it gives a medical service that works in sympathy with the scheme. These American observers find the German and British health insurance schemes represent "extremes in the degree of medical satisfaction with the position of the profession in the scheme. German physicians are among the most loud in their complaints, and the British apparently are the most satisfied." They cannot attribute this difference of attitude to differences in remuneration, for they find that "allow-

[1] The Way of Health Insurance. By A. M. Simons and Nathan Sinai. Publications of the Committee on the Study of Dental Practice of the American Dental Association. No. 6. University of Chicago Press. 1932. Pp. 215. $2.

ing for differences in the standard of living, there is really no wide discrepancy in professional incomes in the two countries." Nor can they trace it to differences in the methods by which the doctors are remunerated. The really important matter is that in Germany the doctors are under lay control, while in Great Britain the control of the medical services is exercised to a large extent by the doctors themselves.

"The demand for medical representation on the administrative side hits at the heart of the matter. There is nothing so highly mystical about the economic and social problems involved as to bar such representation. On the contrary, once the cash and service sides are separated the rest is an extremely simple problem in administration.

"British and French experience, and the judgment of recent official investigators from countries contemplating the introduction of health insurance, gives sound reasons for the conclusion that every step in the direction of separation of these functions and increasing the power of the medical professions in the control of insurance institutions has brought greater satisfaction on the part of patients, public, and practitioners."

The conclusions stated in the two paragraphs quoted above are the result of a penetrating analysis of the methods by which insurance medical services are administered. This analysis, and indeed the whole report, may confidently be recommended to all who are concerned with health insurance, either as practitioners, administrators, or interested members of the general public.

Benefits of Insured Women.

A deputation of women's organisations received at the Ministry of Health on May 25th maintained that the proposal in the National Health Insurance Bill to reduce the benefits of insured women, especially those of married women, was contrary to the basic principle of a State insurance measure, which should involve the pooling of the resources of the scheme for the benefit of all. Whilst admitting that the claims of the women were high, they were not so high as in the case of large groups of insured men against whom no discrimination was contemplated in the Bill, and it was unfair to select one section for a lowering of benefits. The higher sickness rates of women were largely due to their low rates of wages, which in turn were due to the legal and other disadvantages under which so many of them carried on their work. The most equitable way to deal with the position was, not by differentiating women from men, but by equalising the position of men and women; they suggested that there might be a partial pooling of future surpluses, and that the central fund might be strengthened and the powers in respect of the fund increased, or that some other form of reorganisation was necessary. The Minister of Health in reorganising the scheme should give consideration not only to the financial aspects but to the interests of public health.

In reply, Mr. Ernest Brown, Parliamentary Secretary to the Ministry, said that differentiation between men and women was a principle which had been in force since the inception of the scheme in 1911. If the deficiency on the women's side had been met by adjusting men's benefits as well as women's, the aggregate hardship to married women would be much greater, since the vast majority of them, being uninsured, would be affected by any change in their husbands' cash benefits, whereas only the minority of married women—namely, those who were insured (a sixth of the whole) were affected by the proposals in the Bill. He was afraid that the central fund was not nearly large enough to meet the losses arising from the claims of women; a further levy to augment the fund would only increase the number of societies in deficiency. In those circumstances, he said, the only practical alternative to changing the rates of women's benefits was to raise women's contributions by not less than 1½*d.* a week, and the Government had decided that this was an extra burden which they could not ask Parliament to impose.

Points from Committees.

At a meeting of the LONDON INSURANCE COMMITTEE on May 26th Lady Stewart made an appeal to support the claim of women not to have their sickness benefit reduced. There was, however, not much support for this contention, as it was stated that it was largely to protect the contributions of single women —some four millions in number—against the excessive claims of the married—about one million—that the Bill had been introduced. It was suggested that the part-time married woman worker was the chief cause of the heavy sickness claims. The Committee refused by a large majority to express regret at the proposed reduction.

The Committee discussed the question of cuts in the salaries of its staff, and referred the matter back to their general purposes committee, with the suggestion that it was probably better to make some cuts themselves rather than have a cut imposed.

The chairman of the pharmaceutical subcommittee gave a word of praise to the chemists in the area on the accuracy of their dispensing. Of the last 61 tests made by taking prescriptions to chemists and having the results analysed, it was only found necessary, he said, to investigate further in two cases.

The ointment box, cardboard or chip, is liable to give trouble to chemists. Two cases were referred back by the Ministry to the Committee with the suggestion that fines should be imposed for failure to supply 2 oz. and 1 oz. of ointment as required. The chemists had filled a reputed 2 oz./1 oz. box, but the weight was deficient. The regulations provide that the ointment ordered should be weighed and placed in a suitable vessel, and it was decided to inflict fines as suggested.

BIRMINGHAM insurance practitioners are not all business men. Witness two items on the May agenda of the insurance committee:—

"To approve issue of cheques amounting to £30 13*s.* 7*d.* to insurance practitioner and a chemist in the place of cheques for a similar amount which had been lost. . . ."

"To cancel cheques amounting to £740 6*s.* 8*d.* issued to general practitioners and not presented for payment within three months of issue. . . ."

From figures given it appears that for two recent quarters the number of medical cards issued exceeded the doctors' acceptances by more than 7500, with a total of 20,000 odd. The difference is presumably due to insured persons not taking the cards to doctors for acceptance upon receipt, and possibly to some delay on the part of the doctors in sending up new medical cards when received.

The number of insured persons in the Birmingham area on Jan. 1st, 1932, was 450,166; on April 1st, 453,843.

The CHESHIRE PANEL COMMITTEE had referred to them by the insurance committee a curious claim by a doctor for emergency treatment fees on account of a patient on his list who was attended by himself in an adjacent area, the doctor being also on the panel for that area. The Committee at first declined to pay these emergency fees, and consulted the Insurance Acts Committee. The reply received was that emergency attendance on a doctor's own patient outside the committee's area, but in an area in which the doctor is also on the panel, should be paid for.

During the last financial year a sum of £1086 was received by voluntary levy on insurance doctors, and donations were made as follow: Royal Medical Benevolent Fund and Epsom College, each £52 10*s.*; National Insurance Defence Fund, £200.

At a recent meeting of this Committee the question of a general pension and insurance scheme for insurance

practitioners came up for discussion. The clerk to the insurance committee had been requested by an assurance society to act in accordance with an authority made by an insurance practitioner to deduct certain moneys from fees due to him quarterly, and pay the same to the assurance society, and the insurance committee resolved to defer action until a report was received from the panel committee. When the matter came later before the drugs committee a letter was read from the deputy medical secretary of the B.M.A. stating that a subcommittee of the Insurance Acts Committee was investigating pensions schemes, and asking the panel committee to hold its hand. This was agreed to.

PUBLIC HEALTH SERVICES

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

THE following are 1931 statistics of two county boroughs and one metropolitan borough :—

Name of district and estimated (R.-G.) mid-year population.	Birth-rate.	Death-rates per 1000 of the population.					Death-rates per 1000 live births.		
		All causes.	Tuberculosis.	Cancer.	Respiratory diseases with influenza.	Heart disease.	Infant and neonatal mortality.	Young child (1–5 yr.) mortality.	Maternal mortality in childbirth.
Sunderland .. (187,600)	21·8	14·4	1·42	1·20	3·0	1·8	99/36	66	4·6
Bootle .. .. (77,160)	21·6	14·8	1·59	1·46	3·4	1·6	95/41	43	4·2
Bermondsey .. (112,400)	17·4	12·5	1·16	1·30	2·6	1·7	57/—	22	6·1

Registered stillbirths per 100 live births: Sunderland, 3·9; Bootle, 3·8; Bermondsey, 2·5.

Sunderland.

Dr. A. S. Hebblethwaite says the year was not a pleasing one statistically. The general death-rate in the county borough was slightly up and epidemics of measles, influenza, and pneumonia in the first two quarters of the year caused a higher infant mortality-rate. The two-yearly visitation of measles gave rise to 2294 notifications and 108 deaths—a death-rate of 0·57 to be compared with 0·07 for England and Wales. The increased prevalence of cerebro-spinal fever was "shared by the country at large." In Sunderland there were 39 cases and 27 deaths. Difficulty has been experienced in obtaining bacteriological confirmation at an early stage and was reported to the Ministry. Owing to the pressure from other infectious diseases the female ward for tuberculosis had to be used during the later part of the year for scarlet fever, and Dr. Hebblethwaite records an increase of the deaths from pulmonary tuberculosis as additional evidence for the need of more satisfactory institutional accommodation for this disease.

The brightest feature of the year has been the development of the municipal (ex-poor-law) hospital of 415 beds. Additions have been made to the resident and consulting staff. The increase of 20 in the nursing staff has made it possible to defer the waking time of patients to a more satisfactory hour. The accommodation includes tuberculosis wards, a 7-bed ward for school-children suffering from tonsils and adenoids, an electrotherapeutic department, and a 13-bed maternity wing, which admits an increasing number of confinement cases. Critics of the increased cost are reminded that 75 per cent. of the admissions are acute cases, as against 25 per cent. in previous years. The percentage of beds occupied by children during 1931 was 41·6; and 62 private patients were admitted for an average stay of 30·9 days. The surgical beds have been increased and on August 1st an out-patient department was opened. Operations numbered 763 as against 197 in the previous year. General practitioners send in cases after consultation with the medical superintendent, but necessitous cases are admitted through the relieving officers and district medical officers. The greatest need appears to be a hostel for the nurses, who are at present accommodated in temporary huts.

Housing has been a difficult problem. The municipal houses do not house the people who most require re-housing and "these latter have taken the remedy in their own hands by occupying tenemented property in the best residential parts of the town." The new houses erected numbered 520 (including 371 municipal), as compared with 756 in the previous year. A voluntary housing association does useful work by buying and reconditioning and letting at low rentals; and their supervision of their tenants has led to much improved conditions. A second swimming bath is nearing completion, with modern chlorination and filtration, but with this addition, says Dr. Hebblethwaite, provision for swimming will still be inadequate.

Bootle.

Dr. F. T. H. Wood reports a rise in the death-rate of the county borough, due to respiratory disease and influenza in the first quarter. The infant mortality-rate was 16 points up, largely owing to neonatal deaths which were the highest since 1911. The accommodation at the Isolation Hospital was severely taxed by a high incidence of diphtheria and scarlet fever. Plans for a new 45-bed pavilion and an extension of the nurses' quarters were approved in July, but, at the request of the Ministry for economic reasons, a 12-bed cubicle pavilion is to be erected as a first instalment. The recent census enumeration showing a net increase of only 312 was a surprise, indicating large unsuspected emigration. During the corresponding intercensal period the excess of births over deaths was 8548.

In 1921 the population of Bootle of 76,487 lived in 13,320 houses, equivalent to 5·64 persons per house; whereas in 1931 the population of 76,799 lived in 15,391 houses, equivalent to 4·98 persons per house. The 1700 new municipal houses in the Orrell area have absorbed some 9000 people; and there were only 8726 persons living more than two to a room, the usual standard for overcrowding, in 1921. On the other hand there have been 1228 applications for municipal houses since February, 1931, from Bootle residents living in rooms and the particulars of their families suggest considerable overcrowding. Dr. Wood refers to the smaller size of the families nowadays and the praiseworthy demand for a higher standard of living in explanation of these somewhat anomalous figures and he is quite clear "that, however gratifying recent achievements have been, the end of municipal housebuilding is not yet in sight." Good progress was made in the reconditioning of 275 unfit houses, 36 of which were in an "improvement" area. With very few exceptions the schedules of repairs needed were accepted by the owners without modification or the service of statutory notices. The new by-laws for houses-let-in-lodgings, approved on May 19th, 1931, which require the owner to provide for each occupying family adequate and readily accessible w.c. accommodation, domestic water-supply and accommodation for washing clothes, for the storage of food, and for the preparation and cooking of food, are being put in force vigorously.

The antenatal clinics were attended by 748 new

cases, a number equivalent to half the births. A postnatal clinic, instituted in 1929, was attended by 103 mothers four or five weeks after delivery, as compared with 65 in the previous year, and arrangements were made to secure the treatment of the large number of abnormalities found. The special efforts to supervise the pre-school child included a full examination of 227 children aged 3 years, 66 per cent. of whom had defects requiring treatment.

Bermondsey.

Dr. D. M. Connan reports that the infant mortality-rate of this metropolitan borough was the lowest recorded and that the cases of diphtheria and scarlet fever were the lowest for 15 and 13 years respectively. Only 15 patients were immunised at the Schick clinic. The general death-rate was lower than in 1930 (13·1) and the pulmonary tuberculosis rate of 1·03 was equal to the lowest recorded—viz., in 1929. The lady almoner makes assessments and collects payments in respect of patients sent to the L.C.C. sanatoriums. In 1931 £400 was collected on 206 assessments. She also found occupation for a number of discharged patients and ran a weekly handicraft class; and her other activities included arranging for convalescent homes for non-tuberculous patients and for health lectures in the schools. The solarium was attended by 677 new cases. The conditions which benefited most were rickets, malnutrition, and debility; while chronic rheumatics obtained decided relief, in the absence of better methods. The group system of irradiation was introduced for school-children. The children march round circles irradiated by mercury-vapour and radiant heat lamps to the music of a gramophone and this is followed by simple physical exercises. Since 1924 the borough council have sent 24 tuberculous patients to Leysin. Of these, 12 are "well and at work"; 4 are "keeping well"; 5 are still at Leysin; 2 have left Bermondsey; and 1 has died from tuberculous meningitis. There were 50 notifications of puerperal fever and pyrexia and the available facilities were used as follows: 41 were admitted to hospital, for 2 a consultant was provided, and for 2 a nurse, whilst there was no application for bacteriological examination.

A full account is given of Bermondsey's housing problem and the efforts being made for its solution. Most of the inhabitants are manual workers and much of the labour is casual in this riverside borough. The houses of former well-to-do residents have been split up into tenements without proper provision for cooking, washing, &c. Many of the 4-, 5-, and 6-roomed cottages, the prevailing type, are occupied by two or more families, and it is difficult to decide how widely to apply registration under the by-laws for houses-let-in-lodgings. There are blocks of flats, including 4000 separate tenements, one or two of the older blocks being "very far from satisfactory." Most of the house property is from 70 to 150 years old and a considerable proportion is worn out. Rents range from 5*s*. per week for one room to 35*s*. for six rooms. This rent is high, says Dr. Connan, considering that the average wage in the borough is from 42*s*. to 45*s*.; and it is often exorbitant in view of the accommodation provided. Since 1919 the Council have had in hand unhealthy areas involving about 650 houses and over 4000 persons, and have rehoused 350 families; the L.C.C. have erected 151 flats; and private enterprise has provided 22 houses and 58 flats. In their five-year programme the Council hope to deal with 22 additional small "clearance" areas and some 40 houses by demolition orders leaving "improvement" areas to the L.C.C. Dr. Connan believes that every available site has been considered by the Housing Committee. The overcrowded families desiring local accommodation number 1180 and those willing to move to L.C.C. estates 295. When a family moves to a L.C.C. estate, efforts are made to prevent overcrowding in the vacated house, but difficulties arise when unemployment causes the moved family to return and overcrowd their relatives in the borough.

Dr. Connan notes a considerable increase in the amount of food, especially bacon, arriving at the borough wharves, necessitating much night inspection. There is a sale for Grade A (T.T) milk, but the price of Certified milk is prohibitive and Dr. Connan does not favour the steadily increasing sale for sterilised milk.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED MAY 21ST, 1932.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 56 (last week 76); scarlet fever, 1404; diphtheria, 671; enteric fever, 29; acute pneumonia (primary or influenzal), 918; puerperal fever, 45; puerperal pyrexia, 126; cerebro-spinal fever, 46; acute poliomyelitis, 1; encephalitis lethargica, 14; dysentery, 14; ophthalmia neonatorum, 80. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on May 24th–25th was as follows: Small-pox, 89 under treatment, 5 under observation (last week 116 and 4 respectively); scarlet fever, 1549; diphtheria, 1319; enteric fever, 7; measles, 2550; whooping-cough, 399; puerperal fever, 16 (plus 5 babies); encephalitis lethargica, 228; poliomyelitis, 3; "other diseases," 86. At St. Margaret's Hospital there were 15 babies (plus 8 mothers) with ophthalmia neonatorum.

Deaths.—In 117 great towns, including London, there was no death from small-pox, 1 (0) from enteric fever, 84 (37) from measles, 9 (6) from scarlet fever, 43 (15) from whooping-cough, 26 (6) from diphtheria, 42 (10) from diarrhœa and enteritis under two years, and 42 (5) from influenza. The figures in parentheses are those for London itself.

Manchester reported the only fatal case of enteric fever. Liverpool reported 16 deaths from measles, Walthamstow, Leeds, and Manchester each 3. Four fatal cases of whooping-cough were reported from Liverpool, 3 from Birmingham. Diphtheria accounted for 8 deaths at Liverpool.

The number of stillbirths notified during the week was 264 (corresponding to a rate of 43 per 1000 total births), including 40 in London.

ST. JOHN'S HOSPITAL FOR SKIN DISEASES.—At the recent annual meeting Lord Chesterfield, who presided, remarked that there is still no accommodation for small children, and that arrangements will presently have to be made for paying patients. There is no isolation or observation ward and the out-patient department is congested. Since it is impossible to enlarge the present building in Leicester-square a new out-patients' department will sooner or later have to be provided in some other central part of London.

ST. BARTHOLOMEW'S HOSPITAL: ANNUAL REPORT.—In 1931 the new in-patients numbered 11,162 and their average stay was 20·9 days; new out-patients were 95,121. In-patients from outside the county of London were nearly 42 per cent. of the total—figures which, the annual report points out, tend to show the national character of the hospital. While there was an appreciable increase in the in-patients, there was a slight fall in the attendances of out-patients and in casualties, and it is anticipated that there will be a further decrease as the result of the recent decision of the governors that national health insurance patients, other than cases of accident or emergency, will not be treated unless they produce a letter from a panel doctor. The income at £224,534 shows an increase of £8170, although donations and subscriptions have declined. The expenditure was £216,370, a decrease of £2770. Considerable economies have been produced as the result of the work of a special committee. In response to representations from the Medical College of the hospital as to the necessity of securing additional facilities for the training of students in obstetrics negotiations are proceeding for amalgamating with a maternity hospital. It is proposed also to absorb the Royal General Dispensary which occupies a corner site on the east side of Bartholomew Close, and the Charity Commissioners have accordingly prepared a draft scheme which, in its final form, is to be recommended to the governors for acceptance.

CORRESPONDENCE

APPENDICITIS.

To the Editor of THE LANCET.

SIR,—Sir James Berry has done a service to medicine by emphasising the need for a conservative attitude in dealing with appendicitis with abscess. On the other hand it would be disastrous if his advice was taken to apply to all cases of acute disease of the appendix.

Over 3000 persons die in this country every year of acute appendicular disease. A few of these are the victims of ill-advised and meddlesome surgery. The vast majority of the fatalities, however, are in cases of acute appendicular obstruction, a disease differing essentially in its pathology and in its clinical symptoms from primary inflammation of the appendix.

Since 1914 I have sought to obtain recognition of this acute form of intestinal obstruction as an entity. It differs from acute inflammation of the appendix in the vital factor of tension of decomposing fæcal matter within the lumen of the organ leading to gangrene and perforation before protective adhesions have had time to form. Colicky pain, and usually vomiting, but no fever or acceleration of pulse-rate, distinguish its onset and, when diagnosed, immediate operation is imperative. If the obstructive cases are dealt with promptly, we shall not have to deplore a mortality figure which represents a needless sacrifice of useful lives. The inflammatory and localised suppurative types of case may safely be treated with conservatism and restraint.

What is most needed is the education of the public to the fact that abdominal colic demands medical advice and not purgation; that a dose of castor oil, administered for an undiagnosed abdominal pain, may be lethal. We owe it to the public, however, to be able to distinguish the dangerous condition when it is present and this we can only do if we have a clear understanding of the underlying pathology.

I am, Sir, yours faithfully,

Edinburgh, May 24th, 1932. D. P. D. WILKIE.

To the Editor of THE LANCET.

SIR,—By his timely and wise remarks Sir James Berry has done a real service to surgery. I share his doubts as to whether, from the point of view of the patient, the progress of surgery has been as beneficial as it might have been. I am in cordial agreement with his criticism of the teaching that every case of acute appendicitis requires immediate operation, and I write this with the greater pleasure, inasmuch as in this matter I have not always seen eye to eye with my respected former teacher. Now I admit readily that he was right and I was wrong.

For many years I have taught that in abdominal surgery success depends very largely on adequate preparation of the patient. This, I am convinced, is no less true in dealing with cases of acute appendicitis. A delay of some hours spent in preparatory treatment not only ensures a safer operation, but in the majority of cases brings about such an alleviation of the symptoms that operation can be delayed until the acute stage is passed. Shortly after the war I began the practice of delaying operation in all cases of acute appendicitis for six or eight hours, so as to allow time for the patient to have rectal injections of saline and glucose, and sodium bicarbonate by the mouth. I was surprised to find how frequently the symptoms subsided, so that in some cases operation was not necessary at all and, in the majority operation could be deferred for four or six weeks.

I have no doubt that Sir James Berry is right when he says that there is a greatly exaggerated idea about the mortality of appendicitis when properly treated on common-sense lines. Doubtless some cases do necessitate prompt operation, but they form the minority. Perforation of the appendix is obviously an indication for operation, but we must remember that even general septic peritonitis is not inevitably fatal. Further, even when we suspect perforation and operate, we are sometimes surprised to find that nature has localised the pus, so that operation might have been postponed. I admit that, in the hands of an expert, operation during the acute stage is relatively safe, but an expert is not always available, and I believe that if the precepts of Sir James Berry were followed more generally, the mortality of acute appendicitis would be reduced greatly.

I would however point out, first, that the "delayed treatment" should be carried out only when the patient is in a nursing home or hospital, where immediate operation can be performed if the occasion should arise. Secondly, Lord Moynihan pointed out many years ago the grave risk of perforation which attends the administration of purgatives. I have verified the truth of this warning on many occasions. When purgatives have been administered, especially in children, only prompt measures will prevent the catastrophic effects of the injudicious misuse of castor oil.

There is no doubt that, as Lord Moynihan so aptly says, "Deaths are too often 'therapeutic,' caused, that is, by the active measures designed for relief." Even in modern surgery there is room for clinical judgment and common sense, whereas the policy too often adopted is the easier but more dangerous one of "Look and see."

I am, Sir, yours faithfully,

HERBERT J. PATERSON.

London, W., May 28th, 1932.

REDUCTION OF BENEFITS OF INSURED WOMEN.

To the Editor of THE LANCET.

SIR,—It is always well to have the two sides of a question presented, and Dr. Jane Walker has ably presented the case in favour of non-reduction of insurance benefits for married women. So I will just make comments on her letter.

The *unemployment benefit fund* began well as an insurance scheme. It is no longer a well-organised insurance scheme. It has completely broken down on its insurance side and contributions are in no way equivalent to benefits given. It is a national dole with consequent very heavy charges on the national exchequer, and attempts are now being made to restrict it to its original intention by the means test and in other ways.

Use of surplus moneys.—If the approved societies and the 88 per cent. of men and 38 per cent. of women beneficiaries would give consent to alienate say 2½ million pounds of their quinquennial valuation and give it to the Government, the yearly deficit of £420,000 for the married women's claims pay for the next five years could doubtless be met, or alternatively give the same amount to initiate what really would be much more useful—viz., a statutory pregnancy

benefit, thus relieving the sickness benefit funds of a big percentage of claims due to pregnancy and associated diseases. This latter suggestion would considerably ease the burden of doctors, insured persons, and agents of approved societies who have to decide whether the pregnancy claim is indeed a sickness claim. I have to point out that the National Health Insurance Act provides a sickness and maternity benefit, but there is no money for payment of a pregnancy benefit as such. Hence some of the claims paid at present are obtained by various subterfuges. So the question I ask is: Will the present holders of these surplus moneys prove willing to make such a beau geste? I am not optimistic enough to think so. Compulsory legislation then to take away surplus—but who is going to initiate such an unpopular Bill?

The *contingencies fund* (central fund of societies) referred to by Dr. Walker has been so repeatedly drawn on that it has resulted in present proposals to reduce benefits. The limit has been reached.

Finally we come to the question of an *additional levy*, and here I see Dr. Jane Walker and I are in some agreement, but she is bolder than I, for she demands a levy on all insured persons and I only go by the actuarial calculation—i.e., ½*d*. per insured woman and small reduction of sickness and disablement benefit. I can only reiterate that I support this last method because I believe it is sound finance, and I think the married women get a fair return for their contributions. I repeat that the National Health Insurance Act is an insurance scheme and must have limitations, and I dislike attempts to make insured women recipients of a dole or a charity on the lines of the present unemployment fund.

I can see no justification in the final paragraph for the statement "the lower sickness and unemployment benefits payable to women are a further cause of her greater sickness." If this were true it would follow that medical benefit and all other benefits provided under the National Health Insurance Acts are of no use, and the sooner they are abandoned the better for all. Experience of panel practice lends no support to these statements. No one to-day would seriously suggest the abolition of the National Health Insurance scheme. It is well embedded in our social organisation after 20 years' experience of its value. We await further developments along insurance lines when the state of national finances will permit. Then perhaps dependents may be brought within its scope. I must regretfully maintain that in the interest of a properly regulated finance, and to be fair to all contributors, there must at least be a temporary reduction of sickness and disablement benefits to married women.

I am, Sir, yours faithfully,

Plymouth, May 31st, 1932. MABEL L. RAMSAY.

TOXIC EFFECTS OF PHENOLPHTHALEIN.

To the Editor of THE LANCET.

SIR,—In his letter on this subject in your issue of May 7th (p. 1015) Dr. Aubrey lays himself open to the same criticism which he makes on the letter of Dr. Hunt in a previous issue. He remarks on the want of information about the dosage of phenolphthalein producing toxic symptoms, but he gives none himself in the cases he describes. No reference has been made in this correspondence so far to the description by Lauze in 1924 of cases of uræmia, of general collapse, and of severe purpura after the administration of this drug. In the first of two new cases which he described in the *Clinical Journal* severe vertigo, cyanosis, hæmorrhagic stools, and severe faintness were noted on five separate occasions but he also omitted to state the dose given. In the second case in a man of 60, which was similar and equally severe, the onset followed a few hours after taking a medicated cocoa containing only 0·1 g. of phenolphthalein. Extensive purpura was present in each case.

I am, Sir, yours faithfully,

C. E. LOWE, M.R.C.S. Eng.

Heswall-on-Dee, Cheshire, May 24th, 1932.

THE UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.

To the Editor of THE LANCET.

SIR,—Knowing as I do that the court of governors of the University of Durham College of Medicine have decided to institute an inquiry into the administration of the College, and that that decision was largely influenced by doubts as to the wisdom and justice of the action of the Council with regard to the personnel of the department of bacteriology, I am astonished to observe that the Council are now advertising for a professor of bacteriology. In these circumstances I venture to suggest that it would be well that any prospective candidate should make himself familiar with the present condition of affairs in the College, and should scrutinise carefully the terms and conditions of the appointment.

I am, Sir, yours faithfully,

RUTHERFORD MORISON,
Emeritus Professor of Surgery, Durham University.

St. Boswells-on-Tweed, May 24th, 1932.

FREE TREATMENT AT VENEREAL CLINICS.

To the Editor of THE LANCET.

SIR,—The daily press anticipates that drastic economies in the social services will be carried out before the end of the year. Scope for such economies without danger to the national health would appear to lie in reducing the expenditure on venereal clinics. At present persons who can well afford private treatment attend such clinics and the curious position obtains that the only diseases in which, in the great majority of cases, infection is due to a voluntary act of the patient are also the only diseases accepted at clinics for treatment without any inquiry as to the patient's income or financial ability to pay for private treatment. As a result of this special privilege of the patient suffering from venereal disease, the practice of many venereal specialists has decreased almost to vanishing point, so that the State loses their income-tax in addition to the money voted from public funds for the maintenance of unnecessarily large and numerous V.D. clinics.

The venereal specialist sees ruin staring him in the face, as with the universal financial stringency more and more patients go to clinics who do not properly belong to the hospital class, and who can even with their reduced incomes well afford a moderate fee for private treatment. If free, or nearly free, treatment at V.D. clinics was restricted to married persons with incomes below £300, or unmarried adults with incomes not exceeding £150, both the State and the venereal specialist would benefit and the health of the country would not be risked to the slightest degree. I am, Sir, yours faithfully,

H. WANSEY BAYLY.

Harley-street, W., May 25th, 1932.

TRAINING IN TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I am interested in Dr. Davidson's letter with regard to instruction in pulmonary tuberculosis, and particularly with regard to his remarks that there is no compulsory teaching in many of the medical schools. The present position of Charing Cross Hospital Medical School is as follows: An out-patient clinic exists under the care of Dr. F. H. Young, and attendance at this is a compulsory part of every student's curriculum. In the in-patient department ample material exists for comprehensive instruction in tuberculosis.

I am, Sir, yours faithfully,

ERIC A. CROOK,
Dean, Charing Cross Hospital Medical School.

May 20th, 1932.

To the Editor of THE LANCET.

SIR,—I wish to support what Dr. Davidson says in his letter in the strongest possible terms. I have the opportunity of being in touch with recently qualified men from two London teaching hospitals. Their lack of knowledge of pulmonary tuberculosis is lamentable, and in addition to the reasons Dr. Davidson has put forward, I think the following are of importance.

Some physicians do not care to have cases of pulmonary tuberculosis in their wards, and the consequence is that a student during his ward clerkship gets very little opportunity of learning and recognising anything except the grossest physical abnormalities in the chest. Secondly, in out-patient teaching the early case of pulmonary tuberculosis who shows little or nothing in the way of abnormal physical signs is demonstrated very infrequently and consequently the student does not realise that acute types of pulmonary tuberculosis may progress very far unless the condition is suspected merely on the history.

In addition the newly qualified man has usually no idea of the facilities made available by public authorities for the free examination of sputa for tubercle bacilli or those offered for residential treatment. A good deal could be done to remedy these failings without adding compulsory attendance at a tuberculosis dispensary to the curriculum, but I doubt whether a knowledge of "after-treatment" is likely to be adequately taught except in the latter.

I am, Sir, yours faithfully,

Harley-street, W., May 19th, 1932. F. H. YOUNG, M.D.

OBESITY FOLLOWING SUBARACHNOID HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—The cases of spontaneous subarachnoid hæmorrhage described by Prof. A. J. Hall in your last issue are of particular interest to me, as I was in attendance on Case 3. In certain aspects this case differed from the others described, and as she removed shortly after the first attack and Dr. Hall lost sight of her, he will, I have no doubt, be interested in the subsequent events. After the first attack in December, 1926, the patient remained well for four months. She then had severe left-sided headaches for five weeks, followed by an attack of more violent epileptiform convulsions. During a brief interval in one of these attacks the face became almost black, breathing stopped, and I thought she was dead. Artificial respiration was done and the breathing started again. Evidently at this moment the hæmorrhage must have been pressing on the vital centres at the base of the brain and paralysing the respiratory area. For the next four weeks the temperature varied from 99° to 103° F. Recovery then ensued with the development of obesity, so that in a comparatively short period the patient put on 3 st. in weight.

The points in this case I wish to emphasise are the prolonged high temperature, the large hæmorrhage despite which the patient recovered, and the obesity. Dr. Adie who also saw this case told me he had never observed this condition before. Laboratory tests in this patient showed the urea concentration normal, sugar tolerance normal, basal metabolic rate normal, a negative Wassermann. The menses were normal. X ray examination showed skull sinuses clear, and the pituitary fossa of a normal size and shape; no other clinical evidence of pituitary disease. Now comes the interesting question. What is the cause of this abnormal increase of fat in spontaneous subarachnoid hæmorrhage? Despite the laboratory findings, I suggest the obesity is due to some damage, irritation, or derangement of the pituitary gland or its stalk. This seems to me the only possible explanation. Apart from the obesity the patient is now in fairly good health.

I am, Sir, yours faithfully,

JOHN R. O'BRIEN, M.D., L.R.C.P.

Hull, May 28th, 1932.

PUERPERAL SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—Prof. Okell, in his third Milroy lecture which appeared in your issue of April 23rd, inquires whether the early rash in cases of so-called surgical scarlet fever gives a positive Schultz-Charlton reaction. A recent case of puerperal fever, accompanied by a profuse scarlet rash, which I was called to see, certainly did.

The case, which was under the care of Dr. Olive Coldicott, of Grinshill, had an easy breech delivery on April 26th. Two days before this a child had returned to the house from hospital, suffering from a still discharging abscess of the neck, stated to be a streptococcal infection. On the 29th the woman's temperature shot up, and a "scarlet" rash developed. There was no sore-throat or vomiting. When seen by me on May 2nd the pulse was 132, temperature 103·6° F., and there was a thick universal scarlet rash. There was a condition of marked euphoria, with bright eyes, and alert mental condition. No signs on fauces, tonsils, or tongue. Uterine involution was sluggish, and lochia not offensive. No other physical signs per vaginam or elsewhere. A Schultz-Charlton test had been performed by Dr. Coldicott, and was strongly positive.

In view of the possibility of this patient infecting others with frank scarlet fever (probably an unnecessary apprehension) I arranged for her removal to the ordinary fever hospital. Here she was under the care of Dr. A. D. Symons, and was given hot vaginal douches, under the influence of which a thick purulent discharge began to come away. I was asked to see her again on May 3rd, and gave her glycerin drainage by the Remington Hobbs method. There was no doubt as to the profuse uterine discharge, or the puerperal nature of the rash, probably contracted from the child returned from hospital.

The patient was severely ill for some days, and was given several injections of antiscarlet serum. She also exhibited some pleurisy at one base, but eventually made a complete recovery.

I am, Sir, yours faithfully,

R. L. E. DOWNER, M.D. Lond., M.C.O.G.

Shrewsbury, May 28th, 1932.

TOXÆMIA OF PREGNANCY.

To the Editor of THE LANCET.

SIR,—I read with interest your leading article (May 21st, p. 1101) and note that H. J. Stander concludes that calcium therapy is not a rational measure in eclampsia. Similarly D. F. Anderson found that calcium gluconate had no abrupt effect on the frequency of fits. In a case of eclampsia, described in your columns,[1] I produced a definite hypercalcæmia, the serum calcium being 13·9 mg. per 100 c.cm. serum, and still the convulsions persisted. That calcium is not a panacea in pregnancy toxæmia is obvious. Thrombosis is a predominant feature in eclampsia and it seems somewhat irrational to administer a drug which increases the coagulability of the blood.

I am, Sir, yours faithfully,

W. C. W. NIXON, M.B., F.R.C.S.

St. Mary's Hospital, W., May 30th, 1932.

SPONTANEOUS LACTATION.

To the Editor of THE LANCET.

SIR,—I have read with interest in your issue of April 30th (p. 928) Dr. Krestin's paper on Spontaneous Lactation with its full bibliography. May I add some quotations on the subject from ancient Jewish literature. In the Talmud, which dates from about the second century, we find in Tract "Sabbath" p. 53, the following story :—

"It happened with one whose wife died and had left a suckling infant and the father had no means to provide for a nurse, then miraculously two nipples, like those of a woman, have opened from him and so he himself nursed his son. Rabbi Joseph said: 'Behold what great a man he is that such a miracle occured with him.' Abayê argued: 'No, on the contrary, what a bad man he is, that for his sake nature has had to deviate from the fixed laws of creation.'"

In the Bible (Esther, chap. 2, verse 7) we read :—

"And he brought up Hadassa, that is Esther, his uncle's daughter; for she had neither father nor mother, and the maid was fair and beautiful, whom Mordecai, when her father and mother were dead, took for his own daughter."

This passage is commented by the Talmudic scholars in "Midrash Bereshith Rabah" in a similar way :—"That Mordecai has then developed two mammæ like those of a woman."

I am, Sir, yours faithfully,

M. N. NEUMANN, M.D.,
Physician in charge of the Internal Department of the Bicur-Cholim-Hospital, Jerusalem, Palestine.

May 11th, 1932.

[1] THE LANCET, 1931, ii., 291.

OBITUARY

HERBERT WATNEY, M.D. Camb., F.R.C.P. Lond.,

LATE PHYSICIAN TO ST. GEORGE'S HOSPITAL.

THE death is announced in the eighty-ninth year of his age of Dr. Herbert Watney, the well-known agriculturist.

Herbert Watney was born in 1843, the son of Mr. James Watney, of Haling Park, Surrey, a member of the great brewing firm. He was educated at Rugby and St. John's College, Cambridge, whence he proceeded to St. George's Hospital, on taking up the study of medicine. He graduated at Cambridge as M.B. in 1870, and proceeded to the M.D. in 1876, and, after serving the usual appointments, was elected assistant physician to St. George's Hospital. He was a successful member of the teaching staff and in particular his lectures in the medical school on physiology were valuable to the students. He became full physician to the hospital in 1881, and in 1883 was elected F.R.C.P. and appointed examiner in medicine at Cambridge. But he shortly afterwards retired to an estate which he had bought in Berkshire and which carried with it the manors of Bradfield and Ashampstead. His early retirement from practice led to the discontinuance of physiological work which had promised to be of real significance.

During Dr. Watney's long and busy life as a country land-owner he became well known in agricultural circles as an expert on afforestation and pedigree cattle, while the neighbourhood benefited by an installation of water-supply which he provided at his own expense for the villages adjacent to his property. He married in 1873 Sarah, daughter of the Rev. Marcus Rainsford, who long predeceased him and by whom he had five children. The eldest son was killed in the war, while the second son and two daughters entered the medical profession and have been largely engaged in missionary work in China. Dr. Watney was himself a devoted churchman and a great supporter of foreign missions. As a Cambridge undergraduate he had been a noted oar, rowing for three successive years in the Cambridge boat, and winning the Colquhoun sculls.

WILLIAM DOVE MACFARLANE, M.D. Glasg., F.R.F.P.S. Glasg.,

LATE PROFESSOR OF MIDWIFERY IN ANDERSON'S COLLEGE, GLASGOW.

Prof. Macfarlane, who died at Hunter's Quay on May 6th, made a reputation for himself both as a teacher and organiser, devoting much of his time to the development of the practice of gynæcology and obstetrics in the city of Glasgow.

William Dove Macfarlane was born at Busby, where his father was a medical man. He was educated at the University of Glasgow, and graduated in 1890 as M.B., C.M. He held the usual residential appointments and was for a time resident surgeon in the Victoria Infirmary, Glasgow, after which he was able to enjoy a good deal of post-graduate work through visits to Austria and Germany. On his return from the continent he joined his father in general practice at Busby, and worked there for a considerable period before deciding to specialise in surgery and gynæcology on his election to the staff of the Glasgow Royal Infirmary. There he made a mark for himself immediately as a clinical teacher, and was soon appointed surgeon to the Glasgow Royal Samaritan Hospital, while in 1911 he was invited to fill the chair of midwifery in Anderson's College. So successful was he as an exponent of his subject in lecture room and operating theatre, that his early retirement was received with regret, but in 1920 he resigned both his professorship and his hospital appointments and concentrated upon private practice, and upon the improvement of clinical teaching and the coördination of the various opportunities offered for the study of gynæcology in Glasgow. He was elected to the board of management of the Glasgow Royal Maternity Hospital, and to the Council of the Royal Faculty of Physicians of Glasgow, while he served as president of the Glasgow Obstetrical and

Gynæcological Society and, during the annual meeting of the British Medical Association at Glasgow, was secretary of the section dealing with those subjects. He was the author of "Essentials of Midwifery and Gynæcology, notes for students," published early in his teaching career; of Uterine Fibroids, a study of 150 cases communicated to the *Glasgow Medical Journal*; and of papers on Ovarian Cyst and Retrodisplacement of the Uterus, communicated to the *Journal of Obstetrics and Gynæcology*. His papers were clear and practical, but he was an infrequent writer and refused more than one request to produce a text-book, or to collaborate in the production of such a work.

Prof. Macfarlane's death will recall his memory to very many who owe to his instruction lessons of the highest professional value, for he was a great teacher.

THOMAS FAWSITT, M.B.E., M.R.C.S. Eng.

Dr. Fawsitt was sincerely respected in Oldham, to which he gave his whole professional life, and his death at the age of 86 brings back memories of a long career of service. Born in the town, the son of Dr. Thomas Fawsitt, he was sent to Rugby, and there won the good opinion of Dr. Temple, afterwards Archbishop of Canterbury, who recommended that he should enter the Church. This advice was not taken, however, and Fawsitt, at the age of 17, was apprenticed to his uncle—who had taken over the family practice—and attended lectures at the Manchester School of Medicine. Later he went up to Guy's Hospital, whence he qualified in 1867. Returning two years later to become his uncle's partner he was soon a familiar figure in the town. With his white horse—usually tied to a lamp-post—he was ever at the call of all and sundry. "Can you recall anyone who has worked as he has done for the sheer joy of doing it?" asked a colleague when in 1920 the Oldham Medical Society gave a dinner in his honour. "Morning, noon, and night, the whole year round—barring a short three weeks—work has been his absorbing and almost only interest. His early rising has become a byword, likewise his cryptic conversation with garrulous patients, his readiness to respond instantly to a call at any hour—day or night—no matter how inconvenient, and, lastly, his wonderful endurance." When the Oldham Royal Infirmary was opened in 1872 Dr. Fawsitt and Dr. George Thomson were the first members of the staff, and it was not long before the former became the leading surgeon of the town. To the infirmary he remained a constant friend, while his interest in the local nursing association and in the St. John Ambulance Association—he began lecturing for it in 1883—was close and active. In 1922 he received the freedom of the borough, his portrait, and a large monetary testimonial which was handed over to the Royal Infirmary.

By his first marriage Dr. Fawsitt had two children, neither of whom is living. His second wife died a few weeks before him, and he is survived by their son.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS.

CHILDREN AND YOUNG PERSONS BILL.

MOVING the second reading of this Bill in the House of Lords on Thursday, May 26th, Viscount SNOWDEN, Lord Privy Seal, said the Bill was largely based on the accumulated experience of 24 years' operation of the Children Act of 1908. The publication of the reports of the Children's Branch of the Home Office stimulated public opinion in the problem of the neglected child and that led to the appointment in 1925 of a committee to deal with the question of child welfare. That committee reported in 1927, and the Bill which he now submitted was based very largely on the recommendations of that committee which was known as the Young Offenders' Committee. The Young Offenders' Committee recommended the establishment of special observation centres for children and young persons on remand. The Bill made no provision for setting up such centres. Apart from the objection on principle, it would be impossible in present financial circumstances to embark upon such a costly experiment. The estimated cost of such a centre for London would be £50,000 and the annual cost of maintenance would be over £10,000. But it was hoped that for the time being something might be done to secure the same object by improved remand homes in a number of convenient centres. These places of detention would be transferred to the councils of the counties and the county boroughs, and the Home Secretary would be empowered to inspect these remand homes. These powers would be used to the utmost to provide needed medical observation and examination. It was believed that on these lines for the time being the purpose of observation homes could be met. Dealing with the employment proposals in the Bill Lord Snowden said that under the existing law no child under 12 might be employed, except so far as the employment of children by their parents might be permitted by by-laws. A child between 12 and 14 might not be employed on Sundays for more than two hours. A child between 12 and 14 could not be employed on any day before six in the morning or after eight at night. A child between 12 and 14 might not be employed on any school day before the close of the school. The present Bill proposed to raise the age below which street trading would not be permitted from 14 to 16, subject to a limited exception where children were employed by their parents; and also to raise the age from 16 to 18 below which street trading could be regulated by the local authority. The question of the employment of children in unregulated trades had been before the Home Office and Governments for a great many years. There could be no doubt that it would have been dealt with in this Bill had it not been for the financial crisis and the critical situation of the country.

Lord SANDERSON, on behalf of the opposition, congratulated Lord Snowden on introducing a Bill for the protection of children, but he and his colleagues regretted that there was no mention of observation homes in this Bill. It was pretty generally realised that many of the offences and crimes committed by children were not due to the moral depravity of the child but to physical defects which ought to be discovered and treated.

The motion for the rejection of the Bill was negatived by 38 votes to 5, and the measure was then read a second time.

CLEANSING OF SHELL-FISH BILL.

The Public Health (Cleansing of Shellfish) Bill was read the third time in the House of Commons on May 24th, and was introduced and read a first time in the House of Lords on May 25th.

In the House of Lords on Tuesday, May 31st, the Public Health (Cleansing of Shell-fish) Bill was read a second time.

HOUSE OF COMMONS.

WEDNESDAY, MAY 25TH.

Poor-law Relief.

Mr. LUNN asked the Minister of Health how many persons were receiving poor-law relief in Great Britain on April 30th,

1931, and on April 30th, 1932.—Sir E. HILTON YOUNG replied: The number of persons (men, women, and children) in receipt of poor relief in England and Wales (excluding rate-aided patients in mental hospitals, persons in receipt of domiciliary medical relief only, and casuals) on Saturday, April 25th, 1931, and on Saturday, April 30th, 1932, were 1,003,700 and 1,195,038 respectively.

THURSDAY, MAY 26TH.

The Sale of Disinfectants.

Mr. GLOSSOP asked the Home Secretary if his attention had been called to the result of a High Court appeal which had brought to light new facts relating to the sale of disinfectants; and whether he would consider the introduction of legislation to revise the existing Poison and Pharmacy Acts.—Sir HERBERT SAMUEL replied: Yes, Sir, and on the question of fresh legislation to deal with the sale of disinfectants, I would refer the hon. Member to the answer which I gave to a question on March 24th.

[In replying to a question of Captain Elliston on March 24th the Home Secretary stated that the introduction of the Poisons and Pharmacy Bill, 1931, again next session would be considered in due course.]

Mr. GLOSSOP asked the Minister of Health if any steps could be taken, in view of the present position of maternal mortality, to warn the public of the danger of using lysol and other disinfectants sold at cheap stores in such a diluted form that when diluted in accordance with usual practice they were useless; and if he would take steps to prevent the sale of such diluted disinfectants.—Sir E. HILTON YOUNG replied: I propose to await the final report of the Maternal Mortality Committee which will, I understand, include observations on the subject of the use of lysol in midwifery. I have no power under the existing law to take such steps as are suggested in the second part of the question.

Boneless Meat and Public Health.

Captain RAMSAY asked the Minister of Health whether the public health officials were able to carry out satisfactory tests in regard to the boneless meat not in carcass form imported into this country, in view of the fact that the internal organs wherein frequently the only traces of disease existed had been removed from such meat.—Sir HILTON YOUNG replied: I am advised that while it may be possible to detect disease in boneless meat, the only satisfactory way of ascertaining that meat is free from disease is by inspection of the whole carcass at the time of slaughter. I am accordingly proposing to amend the Imported Food Regulations so as to require an official certificate of inspection with any imported meat less than the whole of the carcass. I am sending my hon. and gallant friend a copy of the existing regulations and the draft amending regulations.

Psittacosis and Parrot Importation.

Mr. TEMPLE MORRIS asked the Minister of Health whether in view of the fact that no case of psittacosis had been reported in Argentina for over a year and the inconvenience the present restriction on the importation of parrots was causing the public, he could see his way to modify the present regulations regarding the introduction of parrots into this country.—Sir E. HILTON YOUNG replied: This question is receiving continuous attention in my department in the light of all the information available on the subject, but I am not satisfied that the risk of the spread of psittacosis through the importation of parrots has so far diminished that the restrictions on their importation, which apply generally and not only to Argentina, could safely be relaxed at present.

Economy in Local Government Expenditure.

Mr. HALL CAINE asked the Minister of Health whether his department would refrain from pressing the different local authorities to carry out all statutory duties imposed upon them which these local authorities might consider might usefully be postponed in view of the economic situation of the country.—Sir E. HILTON YOUNG replied: The reduction of local expenditure was dealt with in a circular issued last September. The action of my department is in accordance with the principles laid down in that circular, which whilst deprecating a wholesale course of cutting down expenditure whatever be its purpose, requires the careful scrutiny of the whole field of expenditure made necessary by the financial situation.

Butter-fat Content of Tinned Cream.

Sir CHARLES CAYZER asked the Minister of Health whether his attention had been called to the recent report of the Walsall borough analyst with regard to imported cream sold in tins, which was stated in such report to contain only 22 per cent. of butter-fat as against the usual 50 per cent. in fresh cream; and whether he would consider the introduction at an early date of regulations to provide that all tinned cream should bear a label stating the precise butter-fat content of the cream therein.—Sir E. HILTON YOUNG replied: I am aware of the report referred to. I have no power to make regulations for the purpose suggested, but I have taken note of the matter in connexion with other representations which have been made as to the composition and labelling of articles of food.

Tuberculosis Grants.

Mr. WEST RUSSELL asked the Minister of Health what were the total sums expended by the Exchequer in respect of tuberculosis in each of the seven years 1924 to 1930; were the sums expended conditional upon proportional expenditure by local authorities; and, if so, what were the proportional terms.—Sir E. HILTON YOUNG replied: The grants made by my department for this purpose were as follow:—

1. *Grants towards the expenditure incurred by local authorities on the treatment of tuberculosis.*

Year.	£	Year.	£
1923–4	1,336,741	1927–8	1,710,248
1924–5	1,430,407	1928–9	1,752,112
1925–6	1,546,828	1929–30....	1,820,144
1926–7	1,631,169		

These grants included (1) a fixed annual grant of £340,788 in lieu of the sums previously available for the treatment of insured persons out of funds provided under the National Health Insurance Acts; (2) a grant equal to 50 per cent. of the approved net expenditure of local authorities on the treatment of tuberculosis after deducting the fixed grant.

2. *Capital grants in aid of the erection or extension of institutions for the residential treatment of tuberculosis.*

Year.	£	Year.	£
1923–4	87,070	1927–8	27,320
1924–5	14,521	1928–9	29,409
1925–6	18,679	1929–30	25,496
1926–7	18,203		

These grants were made at the rate of £180 per bed, subject to a limit of three-fifths of the total cost.

Staff of Ministry of Health.

Colonel GRETTON asked the Minister of Health what was the number of the staff employed in the Local Government Board in 1913 and the total of their salaries in that year; and what was the number of the staff employed by the Ministry of Health in the past year 1931 and the total of the salaries paid in that year.—Sir E. HILTON YOUNG replied: The Local Government Board staff in 1913 numbered 947; the expenditure on salaries was £250,846. The staff of my department in 1931 was 6464 with a salary cost of £1,850,972.

MONDAY, MAY 30TH.

Contagious Abortion in Cattle.

Lord SCONE asked the Minister of Agriculture what steps were being taken to eradicate epizootic abortion in cattle.—Sir J. GILMOUR replied: Contagious abortion in cattle has not been made a notifiable disease as it does not lend itself to legislative control. Veterinary research has, however, made available a reliable test by which affected animals can be detected, and also an immunising agent suitable for use in heavily infected herds. As I have already announced, the Government is undertaking an investigation into the means of securing a reduction of disease amongst dairy herds, and contagious abortion is one of the diseases included in this inquiry.

A Driving Test for Motorists.

Mr. REMER asked the Minister of Transport if he would introduce legislation requiring motorists to undergo a driving test before being granted a licence and requiring all cyclists to be registered.—Mr. PYBUS replied: The Road Traffic Act, 1930, already empowers me to prescribe a test for applicants for driving licences suffering from certain physical disabilities, and a driving test for this purpose has been prescribed. The question whether there should be a general driving test was discussed at considerable length during the passing of the Bill, and I should not feel justified in introducing amending legislation on the point. The cost and inconvenience of requiring all cycles to be registered would, I think, outweigh any advantages that might appear to attach to such a system.

Protection of Pedestrians against Street Accidents.

Sir WILLIAM DAVISON asked the Minister of Transport whether his attention had been called to the method adopted by the municipal authorities of Mannheim to make pedestrians realise the risks they incurred by carelessness in

crossing thoroughfares, by marking with a black cross on the street the spots where any pedestrian was killed or severely injured; and whether he would consider the desirability of taking similar action in the Metropolitan police area.—Mr. PYBUS replied: I am aware that action of this kind has been taken by certain authorities abroad, but I doubt whether public opinion in this country would be in favour of it. In any case, I have no statutory power to impose any such obligation on highway authorities.

First-aid Outfits on Motor Vehicles.

Mr. CLARRY asked the Minister of Transport whether he would consider the necessity of requiring all motor vehicles to carry suitable first-aid outfits.—Mr. PYBUS replied: I have already considered this subject. I do not propose for the moment, at any rate, to extend the scope of the existing regulations which requires that these outfits should be carried on public service vehicles which are used as express or contract carriages.

TUESDAY, MAY 31ST.

Safety of Life at Sea.

Mr. HANNON asked the President of the Board of Trade whether, in view of recent serious fires in ships upon the high seas, he would consider the advisability through an international conference of giving effect to the provision embodied in the Convention for Safety of Life at Sea that the materials used in ship construction should be such as to resist the spread of fire and thus prevent loss of life and damage to property.—Mr. RUNCIMAN replied: The International Convention for Safety of Life at Sea, 1929, provides for the fitting of fire-resisting bulkheads, for the establishment of fire patrol and alarm systems, and for the carriage of fire-fighting appliances on passenger steamships, but it does not provide that the materials used in ship construction and fitting generally should be fire-resisting. The question of limiting the use of combustible material in the construction and fitting of passenger ships is engaging the attention of my department in consultation with the shipping industry, and when their investigations are complete the desirability of initiating international action will be considered.

THE SERVICES

ROYAL ARMY MEDICAL CORPS.

Col. W. R. P. Goodwin, D.S.O., K.H.P., late R.A.M.C., having attained the age for compulsory retirement, is placed on retd. pay.

Lt.-Col. N. E. Dunkerton, D.S.O., from R.A.M.C., to be Col.

Maj. A. C. Hammond Searle to be Lt.-Col.

TERRITORIAL ARMY.

Maj. D. Mackie to be Lt.-Col.

Capt. D. H. Clarke, late R.A.M.C., to be Capt.

Hon. Capt. C. J. L. Wells, late Spec. List, to be Lt., and relinquishes the hon. rank of Capt.

E. M. Wright, late Temp. Lt. R.A.M.C., to be Lt.

TERRITORIAL ARMY RESERVE OF OFFICERS.

Majs. H. W. Read and S. G. Webb, having attained the age limit, retire and retain their rank, with permission to wear the prescribed uniform.

INDIAN MEDICAL SERVICE.

Lt. J. H. Crawford to be Capt. (on prob.).

Capt. C. V. Ramchandani relinquishes his temp. commn.

The undermentioned officers retire: Lt.-Col. (Bt. Col.) F. P. Mackie and Lt.-Col. C. H. Barber.

Lt. P. J. Walshe retires on account of ill-health.

ROYAL AIR FORCE.

Flight Lt. D. B. Smith is transferred from Class D (ii) to Class D (i).

Flight Lt. E. J. Mockler relinquishes his commission on appointment to a commission in the Royal Navy.

HONORARY SURGEON TO THE KING.

The King has approved the appointment of Lt.-Col. C. A. Gill, I.M.S., as Hon. Surg. to the King and of promotion to the rank of Brevet-Col.

COLONIAL SERVICE.

Dr. A. Kinghorn, senior medical officer, has been promoted to Deputy Director of Medical Services in Northern Rhodesia, and Dr. C. E. G. Nunns, Medical Officer in Gambia, has been appointed Medical Officer in Nigeria.

MEDICAL NEWS

University of Cambridge.

On May 28th the following degrees were conferred:—

M.D.—J. R. H. Towers.

M.B. and B. Chir.—L. P. J. Evans.

B. Chir.—F. J. Wright.

University of London.

At a meeting of the Senate on May 25th the Dunn exhibitions in anatomy and physiology for 1932 were awarded respectively to Mr. J. E. Spalding and Mr. W. N. Mann, both of Guy's Hospital Medical School.

Dr. A. T. Wilson will give two lectures, on the Physiology of the Adrenal Gland, at the Middlesex Hospital Medical School, Mortimer-street, W., at 5 P.M. on June 13th and 16th. Admission without ticket.

London School of Hygiene and Tropical Medicine.

The next course of lectures in Tropical Hygiene for men and women outside the medical profession proceeding to the tropics, will be given by Lieut.-Colonel G. E. F. Stammers at 5 P.M. on weekdays from June 14th to 23rd. The synopsis may be had from the secretary of the school, Keppel-street, W.C. 1.

Eugenics Society.

At a meeting of this society, to be held at the rooms of the Linnean Society, Burlington House, Piccadilly, W., at 5.30 P.M. on Tuesday, June 14th, Dr. A. S. Paterson will speak on the Law of Anticipation in Mental Disease.

Royal Free Hospital.

On Wednesday next, June 8th, at 3 P.M., the Queen will visit this hospital to open the Queen Mary building (Albert Levy wing) and lay the foundation-stone of the extension of the Alfred Langton home for nurses.

West London Medico-Chirurgical Society.

Sir Thomas Horder will deliver the Cavendish lecture before this society at the Kensington Town Hall at 8.15 P.M. on June 24th. His subject will be the Present Position of Therapeusis in Infective Diseases.

The fiftieth anniversary annual dinner will be held at the Hotel Rembrandt, Brompton-road, on Friday, July 8th, at 7.30 for 8 P.M.

Chadwick Trust.

Weather permitting, an open-air lecture on the Contribution of Plants to the Study of Heredity will be given in the Chelsea Physic Garden, Swan Walk, Chelsea, by Dame Helen Gwynne Vaughan at 5 P.M. on Thursday, June 9th. Sir William Collins will preside, and the gardens will be open at 4 P.M. If it rains the lecture will be given indoors.

Sputum Examinations in Manchester.

The Manchester public health committee have decided to discontinue the payment of fees to practitioners for taking specimens of sputum from patients whom they are attending. It is not intended to discourage the taking of sputum specimens, and the committee feel that cessation of the payments will not deter practitioners from submitting specimens whenever they consider it advisable. The usual fees—namely, 2*s.* 6*d.* for a specimen taken in private practice and 1*s.* for hospital practitioners—will still be paid where specimens are taken at the request of the medical officer of health.

Donations and Bequests.

Mrs. Kate Greatorex, of Mytton Hall, near Shrewsbury, Salop, besides other bequests, left the following legacies: £5000 to the Victoria University of Manchester, and a further £3000 to that University for scholarships for applied and organic chemistry, to be known as "Joseph Travis Scholarships"; £1000 to the Manchester and Salford Hospital for Skin Diseases for endowing a room or bed to be named the "Kate Greatorex" room or bed; £500 to the Manchester and Salford Blind Aid Society; £500 to Shrewsbury Royal Infirmary; £500 to the Oldham Infirmary in memory of Mr. Joseph Travis, and £500 to the Mauldeth Hospitals for Incurables.—Under the will of the late Mr. F. W. Vause the University of Leeds will receive £1000 for the foundation of an entrance scholarship in medicine in memory of the testator's son, who was killed in the war; and a prize in clinical medicine will be established under the will of the late Dr. Hillman, of Wakefield, who left £1000 for that purpose.—Sir John Rutherford, of Blackburn and Roxburgh, formerly M.P. for the Darwen Division of Lancashire, left £2000 for two beds to be named after him, and £3000 to the endowment fund, and his portrait in oils, by Sir William Orpen, to the Blackburn and East Lancashire Royal Infirmary, as well as £1000 to the Blackburn and District Nursing Association.

Shopping in Hospitals.

The central public health committee of the London County Council has decided to allow the sale in the Council's hospitals of certain articles during hours and under regulations to be fixed by authority. The articles that may be bought include tobacco and cigarettes, newspapers, books, stationery, and "plain sweets."

North Manchester Free Foot Hospital.

Additional accommodation at this hospital was opened last week. Hitherto it has been treating 100 cases daily, but will now be able to deal with double that number. Twenty-five students are in training.

A Ford Ward at Ilford.

Lady Levita last week opened a new ward of 27 beds at the King George Hospital, Ilford. It has been named after the Ford Motor Company, Limited, which has defrayed the cost, amounting to £10,000; its works are in the area served by the hospital.

Belgrave Hospital for Children.

This Clapham-road hospital last year admitted 2313 children, and there were 13,206 out-patients. The former cost £3 1*s.* 3*d.* per week; each out-patient (61,998 attendances) cost a fraction over 8*s.* 1*d.*

Hospital Openings by the Duchess of York.

On Tuesday last week the Duchess of York opened the new Orthopædic Hospital at Mount Gold, Plymouth. Accommodation is provided for 120 patients (100 children) in three wards, each of which has a solarium, and the cost will be £56,000. On the following day the Duchess opened a new maternity ward at the Royal Northern Hospital, Holloway-road. The ward has been endowed by the Ladies' League, and a tablet unveiled by the Duchess records that it is named the Rosemary Ednam Ward, in memory of the late Viscountess Ednam, who was killed in an aeroplane accident in August, 1930.

Leicester Royal Infirmary.

The annual report, which shows that 1931 ended with a small credit balance after an expenditure of £87,597, records that the number of in-patients, 8912, has doubled in ten years. The casualty department is becoming a serious problem, and much money will presently have to be spent on new buildings. The average stay per patient was 19·3 days, and the average cost per occupied bed £158. In-patients from road accidents cost £2850, of which £484 was recovered. The nurses' quarters are being enlarged, and further extensions of those quarters, costing £50,000, will be undertaken shortly.

Asiatic Society of Bengal.

At a meeting of the medical section of this society, held in Calcutta on April 26th, with Lieut.-Colonel R. Knowles in the chair, Dr. U. N. Brahmachari read a paper on the Treatment of Kala-azar with Intramuscular Injection of Sodium Sulphomethyl Stibanilate. He reported that a series of cases had been treated with doses of 0·2 to 0·4 g. dissolved in 1 to 2 c.cm. of water, and injected intramuscularly twice a week. Effects on the size of the spleen, pyrexia, blood count, and Leishman-Donovan bodies were very satisfactory, and all the patients were cured. There were no local or constitutional symptoms. One patient suffering from albuminuria as a complication was also treated with this compound without ill result, and subsequently recovered. The compound, Dr. Brahmachari said, is obtainable under various names—e.g., Thio-sarmine, Sulfarsenol, and Kharsulfan—and has been successfully used in the treatment of syphilis. Further observations are in progress.

St. George's Hospital.

The annual report states that 4937 patients, 500 of whom were children under 12, were admitted last year, and that 262 infants were born in the hospital. The mean residence was 21·55 days, and 822 patients were sent to Atkinson Morley's Convalescent Hospital. The weekly cost per head was £4 8*s.* 2*d.*, a small reduction; the cost per bed was £229 18*s.* 11½*d.*, a fall of more than £4 10*s.* New out-patients numbered 37,934; their cost per head was a fraction over 7*s.* 7½*d.*, or nearly 1*s.* 7*d.* per visit. The ordinary expenditure was £81,378, a saving of £2447; and there was a surplus for the year of £15,766, which was transferred to capital account for reduction of debt. The overdraft, nevertheless, remained at £29,755. A further income of £20,000 is necessary if the activities of the hospital are not eventually to be curtailed. New infant welfare, rheumatism, and orthopædic clinics were started during the year. In the physiotherapy department there were 1817 patients who made on the average 18·87 attendances, which is admitted to appear to be "somewhat high," but it is pointed out that, to be effective, massage must be given frequently and regularly.

Tribute to a Surgeon.

Recently a bronze tablet was unveiled in the main corridor of the Cameron Hospital, West Hartlepool, to the memory of the late Dr. William Gray, who was honorary surgeon to the institution from 1905 to 1931. The tablet, which has been presented by his medical colleagues, the management committee, and staff of the hospital, was unveiled by Dr. A. V. Macgregor, the senior member of the honorary medical staff. It was on Dr. Gray's initiative that the orthopædic department of the hospital was established.

University College Hospital.

In 1931 there was a fall of 461 in the number of in-patients, and of more than 4500 in the out-patients, but the in-patients stayed longer. There was also a reduction in the number of in-patients in the Ear Hospital, mainly accounted for by a smaller number of operation cases for tonsils and adenoids. Congestion of the out-patient department in consequence of the growth of antenatal and child welfare work has necessitated the purchase of several buildings immediately adjoining the Obstetric Hospital. The year's income was £108,000, a slight increase.

Medical Diary

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

FRIDAY, June 10th.—5 P.M., OPHTHALMOLOGY. Annual General Meeting. Mr. Ernest Clarke: Tay's Choroiditis. LARYNGOLOGY AND OTOLOGY. Summer Meeting at Portsmouth.

SATURDAY.—LARYNGOLOGY AND OTOLOGY. Meeting concluded.

MEDICAL SOCIETY OF INDIVIDUAL PSYCHOLOGY, 11, Chandos-street, Cavendish-square, W.

THURSDAY, June 9th.—8.30 P.M., Miss Rayner: Individual Psychology in the Children's Clinic.

LONDON JEWISH HOSPITAL MEDICAL SOCIETY, Stepney Green, E.

THURSDAY, June 9th.—3 P.M., Mr. Maurice Sorsby: 1. Demonstration of Cases. 2. Administration of Pre-anæsthetic Medication.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.

TUESDAY, June 7th, and following THURSDAY.—5 P.M., Dr. J. W. McNee: Liver and Spleen, their Clinical and Pathological Association. (Second and third Croonian lectures.)

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.

MONDAY, June 6th.—10 A.M. to 1 P.M., Gynæcological Wards, Genito-Urinary Operations, Skin Department, Surgical Wards. 2 to 4 P.M., Operations, Surgical Wards, Medical, Surgical, Eye, and Gynæcological Out-patients. 4.15 P.M. (Special lecture), Dr. Trevor Davies: Gynæcological Diagnosis.

TUESDAY.—10 A.M. to 1 P.M., Medical Wards, Surgical Demonstration, Throat Operations, Dental Departments. 2 to 4 P.M., Operations, Medical, Surgical, and Throat Out-patients. 4.15 P.M. (Special lecture), Mr. Steadman: Pyorrhœa Alveolaris.

WEDNESDAY.—10 A.M. to 1 P.M., Children's Medical Out-patients, Medical Wards. 2 to 4 P.M., Gynæcological Operations, Medical, Surgical, and Eye Out-patients. 4.45 P.M., Venereal Diseases Demonstration.

THURSDAY.—10 A.M. to 1 P.M., Neurological Out-patients, Fracture Demonstration. 2 to 4 P.M., Operations, Medical, Surgical, Eye, and Genito-Urinary Out-patients. 4.15 P.M. (Special lecture), Mr. Woodd Walker: Subphrenic Abscess.

FRIDAY.—10 A.M. to 1 P.M., Medical Wards, Skin Out-patients, Dental Department. 2 to 4 P.M., Operations, Medical, Surgical, and Throat Out-patients. 4.15 P.M. (Special demonstration), Dr. Archer: Biochemical.

SATURDAY.—9 A.M. to 1 P.M., Throat, Nose, and Ear Operations, Medical Wards, Children's Medical Out-patients, Surgical Wards, Surgical Out-patients. The Lectures at 4.15 P.M. are open to all Medical Practitioners without fee.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, June 6th, to SATURDAY, June 11th.—CHELSEA HOSPITAL FOR WOMEN, Arthur-street, S.W. Post-graduate course in Gynæcology, all day.—PRINCE OF WALES'S HOSPITAL, Tottenham, N. Course in medicine, surgery, and the specialties. All day.—CITY OF LONDON HOSPITAL, Victoria Park, E. Course in Diseases of the Chest. All day.—NATIONAL TEMPERANCE HOSPITAL, Hampstead-road, N.W. Evening

Clinical Course for the M.R.C.P. At 8 P.M. on Mon. and Fri.—ROYAL FREE HOSPITAL, Gray's Inn-road, W.C. Demonstration in Antenatal Treatment, by Dame Louise McIlroy, at 5 P.M.—BUSH HOUSE, Aldwych. Lecture with Cinema demonstration on Epidemic Encephalitis, by Prof. Arthur Hall, at 8.30 P.M. Thurs. (The above courses are open only to Members of the Fellowship.)

ROYAL NORTHERN HOSPITAL, Holloway-road, N.
TUESDAY, June 7th.—3.15 P.M., Mr. N. A. Jory: Infections of the Labyrinth.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.
FRIDAY, June 10th.—4 P.M., Mr. Lowndes Yates: Headache of Nasal Origin.

ST. PAUL'S HOSPITAL, Endell-street, W.C.
WEDNESDAY, June 8th.—4.30 P.M., Dr. Jenner Hoskin: The Senile Heart, its Effect on the Operative Risk.

NATIONAL CENTRE AND POST-GRADUATE SCHOOL OF RADIOTHERAPY, Riding House-street, W.
WEDNESDAY, June 8th.—4.30 P.M., Mr. W. D. Harmer: Larynx.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley-road, Balham, S.W.
WEDNESDAY, June 8th.—4 P.M., Dr. W. E. Lloyd: Clinical Types of Pulmonary Tuberculosis. (Lantern lecture.)

Appointments

BOWER, M. DYKES, B.Ch. Oxf., D.O.M.S., has been appointed Honorary Assistant Surgeon, West of England Eye Infirmary, Exeter.

JONES, GWYN R., M.B., B.Chir. Camb., County Pathologist and Bacteriologist, Monmouthshire.

MILNE, Isabella A., M.B., Ch.B. Glasg., Asst. Medical Officer of Health, Blackpool.

ROBINSON, Miss M., M.B., B.Ch., B.A.O. Belf., District Resident Medical Officer, Queen Charlotte's Maternity Hospital.

Vacancies

For further information refer to the advertisement columns.

All Saints' Hospital for Genito-Urinary Diseases, Austral-street, West-square, Southwark, S.E.—Res. H.S. At rate of £100.
Altrincham General Hospital.—Sen. and Jun. H.S. At rate of £150 and £120 respectively.
Barrow-in-Furness, North Lonsdale Hospital.—H.S. £175.
Basingstoke, Park Prewett Mental Hospital.—Second Asst. M.O. £450. Also Jun. Asst. M.O. £350.
Bedford County Hospital.—Second H.S. At rate of £140.
Birmingham Children's Hospital.—Res. Surg. O. £175.
Birmingham City Mental Hospital.—Jun. Asst. M.O. £350.
Birmingham and Midland Eye Hospital, Church-street.—H.S. £110.
Bradford Royal Infirmary.—H.P. and H.S. Each at rate of £135.
Brighton County Borough, Public Assistance Committee, Poor-law Institution.—Res. M.O. £850 and Sen. Res. Asst. M.O. £400.
Burnley, Victoria Hospital.—H.P. At rate of £150.
Burton-on-Trent, Bretby Hall Orthopædic Hospital.—Locum. At rate of £350.
Bury and District Joint Hospital Board.—Asst. to Med. Supt. £400.
Bury Infirmary, Lancs.—Third H.S. At rate of £150.
Canterbury, Kent and Canterbury Hospital.—H.S. At rate of £125.
Cardiff, City Lodge Institution.—Asst. M.O. £150.
Carlisle, Cumberland Infirmary.—Second H.S. £155.
Carmarthen, Joint Counties Mental Hospital.—Laboratory Asst. £150.
Cheltenham District Nursing Assoc.—Asst. Supt. £90.
Chester Royal Infirmary.—H.S. and H.P. Each at rate of £150.
Child Guidance Council, 7, Buckingham Palace-gardens, S.W.—Two Fellowships in Psychiatry. Each £150.
City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E.—H.P. At rate of £100.
Colchester, Essex County Hospital.—Asst. H.S. £120.
Dewsbury and District General Infirmary.—Second H.S. £150.
Doncaster Royal Infirmary.—Cas. H.S. At rate of £175.
Dreadnought Hospital, Greenwich.—H.P. and H.S. Each at rate of £110.
Durham County Council Education Department.—Asst. Oculist. £500.
East Ham Memorial Hospital, Shrewsbury-road, E.—Res. M.O. At rate of £200.
East London Hospital for Children, Shadwell, E.—H.P. and H.S. Each at rate of £125.
Evelina Hospital for Sick Children, Southwark, S.E.—Hon. Physician to Out-patients.
Exeter, Royal Devon and Exeter Hospital.—Sen. and Jun. H.S. At rate of £250 and £150 respectively.
Freemasons Hospital and Nursing Home, 237, Fulham-road, Chelsea, S.W.—Res. M.O. At rate of £250.
Fulham Hospital, St. Dunstan's-road, Hammersmith, W.—Clin. Asst. At rate of £100.
Halifax, St. Luke's Hospital.—Jun. Res. M.O. £250.
Hammersmith Hospital, Ducane-road, Shepherd's Bush, W.—Res. Asst. M.O. £350.
Hampstead General and North-West London Hospital, Haverstock Hill, N.W.—H.S. At rate of £100.
Hôpital and Dispensaire Français, 172, Shaftesbury-avenue, W.C. Jun. Res. M.O. £100.
Hull Royal Infirmary.—Third H.S. At rate of £150.
Indian Medical Service.—Appointments Commission.
Lincoln County Hospital.—Jun. H.S. At rate of £150.
Liverpool Hospital for Consumption and Diseases of Chest.—Asst. M.O. and Pathologist. £150.
London University.—Laura de Saliceto Studentship. £150. Also Examinerships.
Middlesbrough, North Ormesby Hospital.—H.P. £120.
Mildmay Mission Hospital, Austin-street, Bethnal Green, E. Assist. Cas. O. At rate of £125.
Miller General Hospital, Greenwich-road, S.E.—Cas. O. At rate of £150. Also two H.S.'s and H.P. Each at rate of £100.
National Hospital, Queen-square, W.C.—Asst. Pathologist. £250.
Newcastle General Hospital.—H.S. At rate of £150.
Northampton General Hospital.—H.S. At rate of £150.
Nottingham General Hospital.—Res. Cas. O., also H.S. At rate of £200 and £150 respectively.
Paddington Green, Children's Hospital, W.—H.P. and H.S. Each at rate of £150.
Plymouth, Central Hospital.—Res. H.S. At rate of £150.
Preston, Lancs, Biddulph Grange Orthopædic Hospital.—Jun. H.S. £150.
Royal Free Hospital, Gray's Inn-road, W.C.—Asst. Phys.
Royal Northern Hospital, Holloway, N.—H.S. At rate of £70.
St. George-in-the-East Hospital, Raine-street, Wapping, E.—Res. Asst. M.O. £350.
St. Mary's Hospital for Women and Children, Plaistow, E.—Two Hon. Asst. Phys. Also Clin. Asst. for Med. Out-patients' Dept.
St. Mary's Hospital, W.—First Asst. Pathologist. £500.
St. Peter's Hospital for Stone, Henrietta-street, Covent Garden, W.C. Clin. Assts.
Salford.—Asst. Res. M.O. for Hope Hospital, Pendleton. At rate of £250.
Salford Royal Hospital.—Med. Reg. £250. Also H.P.'s and H.S.'s. Each at rate of £125.
Salisbury General Infirmary.—Two H.S.'s. Each £150.
Sheffield City.—Asst. Tuberculosis O. £350.
Sheffield, Jessop Hospital for Women.—H.S. At rate of £120.
Southampton, Royal South Hants and Southampton Hospital.—Radium Officer. £600. Also H.P., 2 H.S.'s, and Cas. O. Each at rate of £150.
South Shields, Harton Hospital.—H.S. £150.
Warrington Infirmary and Dispensary.—Jun. H.S. £175.
Warwick, King Edward VII. Memorial Sanatorium, Hertford Hill.—Jun. M.O. At rate of £200.
West End Hospital for Nervous Diseases, Regent's Park, N.W.—Jun. H.P. At rate of £100.
West London Hospital, Hammersmith-road, W.—H.P. and H.S. Each at rate of £100.
Westminster Hospital Annexe, 66, Fitzjohn's-avenue, Hampstead. Res. M.O. £200.
Westminster Hospital, Broad Sanctuary, S.W.—H.S. to Eye and Ear, Nose and Throat Depts. At rate of £102.
Weston-super-Mare General Hospital.—Res. H.S. £150.
Windsor, King Edward VII. Hospital.—Two H.S.'s. Each at rate of £100.
Woolwich and District War Memorial Hospital, Shooters Hill, S.E.—H.P. and H.S. Each at rate of £100.
Wrexham and East Denbighshire War Memorial Hospital.—Two Res. H.S.'s. Each at rate of £150.

The Chief Inspector of Factories announces vacancies for Certifying Factory Surgeons at Romford (Essex); Slaithwaite (York, West Riding); Huddersfield, West (West Riding); Lenham (Kent); and at Broughton (Hampshire).

Births, Marriages, and Deaths

BIRTHS.

JAUCH.—On May 27th, at Grantham, the wife of F. J. Jauch, F.R.C.S., of a son.

NICHOLSON.—On May 22nd, at Park-road, West Hartlepool, the wife of Dr. W. A. Nicholson, of a son.

SIMONS.—On May 20th, at Plymouth, the wife of Major G. E. L. Simons, R.A.M.C., of a son.

MARRIAGES.

SEARS—GOULD.—On May 28th, at Thornton Heath Wesleyan Methodist Church, W., Gordon Sears, M.D., M.R.C.P., to Eileen Gould.

DEATHS.

FAWSITT.—On May 26th, at his residence, "Holmfield House," Oldham, Thomas Fawsitt, M.R.C.S., L.R.C.P., in his 87th year.

MCCALMAN.—On May 18th, at the Chaplain's House, Welbeck, Worksop, Notts, Lieut.-Col. Hugh McCalman, M.D., I.M.S. (retired), aged 82 years.

WATNEY.—On May 28th, at Buckhold, Pangbourne, Herbert Watney, M.D., F.R.C.P. Lond., aged 89.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

NOTES, COMMENTS, AND ABSTRACTS

HOMELESS WOMEN.

SINCE the first Cecil House was opened in 1927 more than 235,000 women and 23,000 babies have been provided with beds for the night, and many have had to be turned away owing to lack of accommodation. The Cecil Houses meet, at cost price, the need for clean beds and bathing and washing accommodation for homeless and vagrant women. Four houses are now in existence, and the premises for a fifth have just been purchased, which, it is hoped, will be open before next winter. Funds for the purchase, renovation, and equipment of houses are raised by public appeals, but once they have been established they rapidly become self-supporting. Women seeking lodging pay 1*s.* a night, for which they receive a bed, a hot bath, tea and biscuits at night, facilities for washing clothes, and tea and bread and butter in the morning. This charge is sufficient to maintain the premises, cover all costs and pay the salary of the matron and her assistants Those needing beds are asked no questions, and are not expected to undertake any of the housework; they are treated as visitors at an hotel, and they have the satisfaction of feeling that they are paying their way. A special fund is kept to pay the expenses of needy applicants, and no woman is ever turned away because she cannot produce a shilling. Mothers appreciate the accommodation for children; few lodging houses will accept young children, even if the mother can afford to pay for a bed. A case is quoted, in the annual report of the Cecil Houses for 1931, of a workman, receiving good wages, who has been unable to find rooms for himself, his wife, and his four children; as a result he and his two sons live at one lodging house, while his wife and two daughters find beds at a Cecil House.

Attempts are made to avoid the spread of vermin or disease at the houses by a careful daily inspection of bed linen. If vermin or traces of disease are discovered, bed and bedding are sent to a disinfecting station. During the past year a woman doctor has made a fortnightly visit to each of the four houses, and has given free advice to the women lodging there. Through the coöperation of friends of the movement, employment has been found for 673 women and girls who have come to the Cecil Houses when out of work. Although no questions are asked, confidences are received with sympathy, and the matrons make every attempt to find posts for those in search of them. Mrs. Cecil Chesterton, founder of the Cecil Houses, pointed out in her book—"In Darkest London"—that while municipal bodies provide ample sleeping room at reasonable charges for men, it is left for philanthropy and private enterprise to cater for women. Only 16 per cent. of the total licensed sleeping accommodation in the public lodging houses of London is available to women, the rest being available to men only. It is to remedy this discrepancy that the Cecil Houses are being established.

SCIENTIFIC RIDDLES.[1]

A SCIENTIFIC riddle is peculiar in that the answer only reveals another batch of conundrums, and it has been well said that a discovery is of moment in proportion only as it uncovers fresh problems for solution. In 52 short chapters, Sir Arthur Thomson deals with an immense variety of topics, gives us a great deal of information, and outlines almost endless lines of inquiry: chromosomes, hormones, parthenogenesis, life in hot places, grey hair, the cuckoo, homing, galls, graft hybrids, telepathy, animal intelligence, evolution, the origin of man: *de omnibus rebus*, in fact *et quibusdam aliis*. The last chapter is headed: Is there purpose in evolution? and is followed by an epilogue on the wonder of the world. This is one of the best of the many good books on biology which Sir Arthur Thomson has written.

[1] London: Williams and Norgate, 1932. Pp. 384. 10*s.* 6*d.*

DEEP-SEA DIVING.

THE Admiralty Deep Diving Committee of 1907—consisting of Prof. J. S. Haldane, Prof. A. E. Boycott, and Captain G. E. C. Damant, R.N.—found that caisson or compressed air disease is due to too rapid decompression of the diver; the nitrogen which has been dissolved in his body at high pressures escapes as the pressure falls and forms bubbles in the tissues. The committee arranged decompression regulations which made it safe for divers to work for an hour at a depth of 200 ft. That was a great advance, but the necessarily long period of decompression was tedious and exhausting to the diver who, coming up from 200 ft., spent a couple of hours hanging on to a rope in cold, loneliness, and darkness. When diving at even greater depths was called for, this disadvantage had to be faced, and Surgeon Lieut.-Commander A. E. Phillips recently told the United Services Section of the Royal Society of Medicine [1] what has been done to make deeper diving between 200 and 300 ft. practicable and safe. Working at 300 ft. a man is under a pressure of, and breathes air at, ten atmospheres, the partial pressures being for oxygen two, for nitrogen eight. The nitrogen is the difficulty, and to liberate him quickly from it as he ascends he is nowadays given a nitrogen-free atmosphere—i.e., oxygen—to breathe. Decompression has besides been made pleasanter by the invention of the Davis Submersible Decompression Chamber (Siebe, Gorman and Co.). This is a steel chamber, lowered like a diving bell, into which the ascending diver makes his way, and there, when the hatch is closed, he finds himself in a lighted chamber with one or two attendants who give him an oxygen-breathing apparatus and hot coffee. Sitting there he can play cards or otherwise pass the time of his decompression, which is now shortened by a half or a third. Thus he can spend more time at work and get more done. The work needs a strong man, but is not exhausting, and the diver is definitely refreshed by breathing the oxygen supplied. "One of our divers reached 344 ft. and came to the surface as one might return from an afternoon's walk." No case of oxygen poisoning has occurred; lung fibroses have in every case diminished, and some functional albuminurias have improved. The rubber suit is more useful than the rigid all-metal outfit for rapid work, necessary, for example, when saving lives from a disabled submarine. Lieut.-Commander Phillips gives complete directions for choosing divers, who must be strong men without medical defect, steady, and self-reliant; it is not now thought important to refuse men who are moderately stout.

IS THERE A MALARIAL PNEUMONIA?

WORKING at the Institute for Tropical Medicine at Hamburg, Dr. M. Salah Eldin has endeavoured to answer the question whether malaria can produce definite lesions in the lung. In his paper,[2] written in English, he discusses the post-mortem appearances of eleven cases seen at Hamburg, two of inoculated malaria, nine of unselected chronic subtertian (named in Germany "tropical"). Of these, four were histologically pneumonia, and pneumococci were seen in two. In the other seven the condition was not a fibrinous exudative inflammation, but a congestive proliferative lesion of the alveolar wall; the capillaries were dilated and congested with swelling of their endothelium, and swelling and proliferation of the alveolar epithelium; in one case there were minute multiple infarcts. Malarial pigment was seen, in these cases, in mononuclears in the distended capillaries and in their endothelium; in one case a few were found in the alveoli. Eldin thinks that pneumonia can only with difficulty be differentiated from massive collapse, encouraged perhaps by

[1] Proc. Roy. Soc. Med., 1932, xxv., 693.
[2] Arch. f. Schiffs- u. Trop.-Hyg., May, 1932, p. 260.

malarial splenitis; the lessening of this during the remission would explain the intermittent nature of the symptoms. He concludes that true pneumonia in a case of malaria is due to an additional infection. The malarial parasite cannot produce in the lung a fibrinous exudative inflammation, but a lung with malarial lesions (proliferative congestion of alveolar walls) is liable to secondary infections. Malaria attacking the lung leads to congestion and œdema or to massive collapse, usually mistaken for pneumonia. He adds that pneumonia is not due to malaria, and he quotes, apparently with approval, the opinions of authors who argue that malaria does not prepare the way for tuberculosis.

PROFESSIONAL SIDELIGHTS.

FOUR small books, three English and one American, have reached us dealing with the attitude, professional and social, that the doctor should adopt towards his patient and the public.

Bedside Manners. By CHRISTOPHER HOWARD, M.R.C.S., L.R.C.P. London: John Bale, Sons and Danielsson, Ltd. 1932. Pp. 104. 3*s.* 6*d.*—Having read Mr. Howard's "After Consulting Hours," we anticipated with pleasure the perusal of this little volume. We were not disappointed. Mr. Howard writes with an agreeable air of broadmindedness, of humour, and of shrewdness, and although some of his opinions here expressed will arouse controversy, even those who are in opposition will enjoy his pages. We cannot imagine many surgeons failing to be stirred to denial by his demonstration of the discrepancy in their favour between the fees of surgeons and of physicians. Nevetheless, we believe he is right in the main. Those who want to be able to say what they mean by a bedside manner will find an amusing and just account in the first chapter, and those who want a sensible view of the constituents of real success will meet it later on. Mr. Howard is amusing but not flippant, and he shows a sincere appreciation of the true value of the genuine practitioner, just as he does an admirably expressed depreciation of him whose shop window is impressive but whose stock-in-trade is scant. He has wise observations on punctuality and the latest methods, and foreign study and specialisation, and there must be few medical men who will not thoroughly enjoy their hour with this little book.

A Guide to General Practice. By A. H. DOUTHWAITE, M.D., F.R.C.P. Lond., Assistant Physician to Guy's Hospital. London: H. K. Lewis and Co., Ltd. Pp 96. 4*s.* 6*d.*—Dr. Douthwaite's little book has a large scope and deserves its important title. In the first place the advice to those entering general practice and on the business aspect of the general practitioner's life, is exactly the sort that senior students and young doctors require—it is, in the author's words, a "recognition that a dangerous hiatus exists between the intensive hospital education of the medical student and the hard won self-education of the experienced medical practitioner." The methods of choosing and entering a partnership are illustrated by the inclusion of a typical partnership agreement of a complicated sort. It is an agreement entered into by an incoming partner (X) replacing one who is retiring (B), and joining three partners of whom (A) and (S) have equal shares, and (T) a smaller part. (X) is unable to pay the full purchase price on entry. It is a good mental exercise to follow the clauses of this agreement and see how fair interplay was secured between (A), (S), (T), and (X). The advice given on the conduct of general practice, with which the book closes, is sound.

The Surgeon. By C. JENNINGS MARSHALL, M.D., M.S. London: Geoffrey Bles. Pp. 192. 3*s.* 6*d.*—This is the latest volume of the Life and Work Series, and inside its small compass a fair general picture is given of the surgical profession in England to-day. There is wise counsel to the student on the qualities which he should cultivate before qualification, and the chapters which follow on the risks of operations, and on their performance and after-treatment resume generally held views in a pithy manner. The chapter entitled "The Need for Operation" is full of good sense, the well-known difficulty of deciding between the various arguments that make for and against surgical interference being well set out.

The Young Doctor Thinks Out Loud. By JULIAN PRICE, M.D. London: Appleton and Co. Pp. 187. 5*s.*—Dr. Price points out that the working hours of the medical student between 18 and 28 are so crammed with the collection and application of information that he has little time to do original thinking, and he proposes to think for him. The result is a series of chapters dealing with the choice of medicine as a profession, with the preliminary and technical education necessary, with the value of holding of appointments, with the experiences of an entrance into general practice, and with the decision to become a specialist. Here we have set out briefly professional ideals and performances in the United States, and the close similarity with which analogous positions are regarded on each side of the Atlantic shows once again how international a thing sound medicine must be.

THE FEAR OF A HIGH BLOOD PRESSURE.

THANKS to the publicity given to the condition of blood pressure in the popular press there are at this time a large section of people whose lives are a constant burden to them because they have at some time or another been told they are suffering from a high blood pressure. Dr. C. L. Andrews has written a book [1] in a style that any layman can understand, expressly for these unfortunates who, to quote his own words, "are the victims of blood-pressure psychology, and who because of hearsay, misinformation, and inability to separate cause from effect live in constant fear of some impending body calamity which may never occur, so far as blood pressure is concerned." There are those who will consider that such a book will tend to make the person who reads it more introspective as regards his health. By making it possible for any layman to get an intimate knowledge of this one disease it may help to exaggerate its importance rather than, as is hoped, to lay its ghost. But before condemning the book on these grounds it should be remembered that the unknown always hold more terrors than the familiar, and that knowledge should dispel superstition.

The book is very readable, and should be easily understood by anyone with average intelligence. The first two chapters explain the meaning of blood pressure and its relation to the circulation of the blood. Then follows an explanation of how blood pressure is estimated, and what is the normal reading at various ages. This is followed by two chapters dealing with high and low pressure respectively, the subject being made more easily understood by an analogy with the motor-car. The last part of the book is devoted to causes of high and low pressure, and their relation to the facts and functions of daily life. The author states that if he has convinced his readers that blood pressure itself is not a disease his mission will be fulfilled.

A REFERENCE LIBRARY FOR MIDWIVES.

THE honorary librarian of the Midwives' Institute writes to ask any medical man who is giving up practice or weeding out his library, to bestow upon the institute any medical works—especially text-books on gynæcology, obstetrics, anatomy, hygiene, or public health—that he no longer requires. The institute would gladly defray the cost of packing and transit. A reference library of about 900 volumes has already been built up with the help of books from friends in the medical profession. The address of the Midwives' Institute is 12, Buckingham-street, Strand, W.C.2.

[1] How's Your Blood Pressure? By Clarence L. Andrews, M.D., Attending Physician and Medical Chief at the Atlantic City Hospital. London: Macmillan and Co., Ltd. 1931. Pp. 225. 12*s.* 6*d.*